



# Home Comforts

**Sears, Roebuck  
and Co., Chicago**



# Our Guarantee

We Guarantee that each and every article in this catalog is exactly as described and illustrated.

We guarantee that any article purchased from us will satisfy you perfectly; that it will give the service you have a right to expect; that it represents full value for the price you pay.

If for any reason whatever you are dissatisfied with any article purchased from us, we expect you to return it to us at our expense.

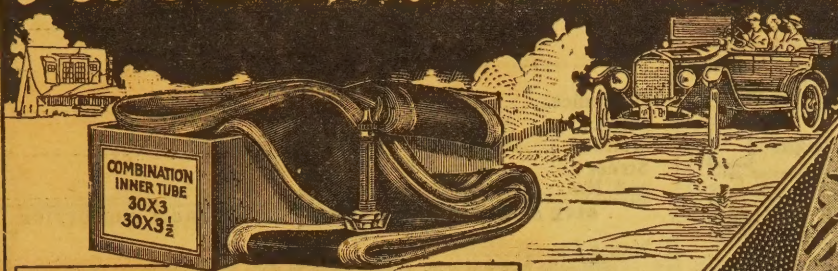
We will then exchange it for exactly what you want, or will return your money, including any transportation charges you have paid.

Sears, Roebuck and Co.  
Chicago





# Auto Tire and Tube Bargains for Ford, Maxwell and Chevrolet Cars



## A Bargain in Inner Tubes

Combination Tubes for 30x3 or 30x3½-Inch Tires.

**\$2.20 Each**

We can furnish Combination Inner Tubes to be used with either 30x3 or 30x3½-inch tires. Their use on Ford cars saves carrying extra inner tubes in more than one size. We will furnish them in either red and black, or all red, as our stock permits. Their quality insures satisfactory inner tube service. Shipping wt., each, about 2¼ pounds.

**28A13208** Combination Inner Tubes for 30x3 or 30x3½-inch tires. Price, each.....**\$2.20**



## A Bargain in Auto Tires

**30x3**  
INCHES

**30x3½**  
INCHES

We are making a special offer on automobile tires in 30x3 and 30x3½-inch sizes only, in ribbed, anti-skid and plain tread. We furnish these tires in clincher style only. We furnish them in several styles of anti-skid tread, one of which is shown here. They are guaranteed against defective material or workmanship, on a basis of 4,000 miles' service.

REMEMBER, our stock of these tires includes 30x3 and 30x3½-inch sizes only.

**28A3620½** Plain Tread Casing, 30x3-Inch size. Shipping weight, about 9½ pounds. Price.....**\$9.65**

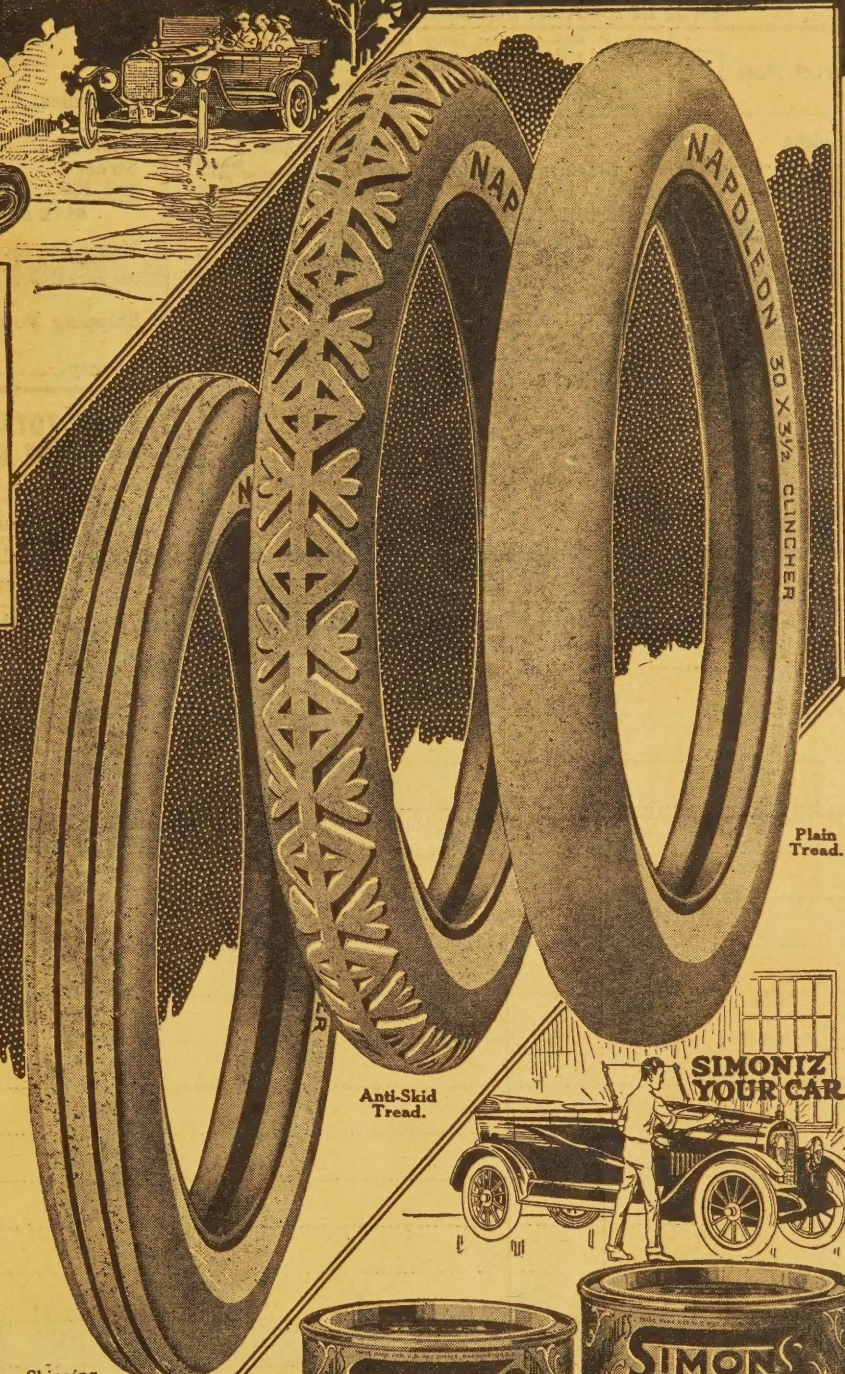
**28A3630½** Ribbed Tread Casing, 30x3-inch size. Shipping weight, about 9¾ pounds. Price.....**\$9.95**

**28A3730½** Anti-Skid Tread Casing, 30x3-inch size. Shipping weight, about 10 pounds. Price.....**\$10.25**

**28A3625½** Plain Tread Casing, 30x3½-inch size. Shipping weight, about 12 pounds. Price.....**\$11.95**

**28A3635½** Ribbed Tread Casing, 30x3½-inch size. Shipping weight, about 12½ lbs. Price.....**\$12.30**

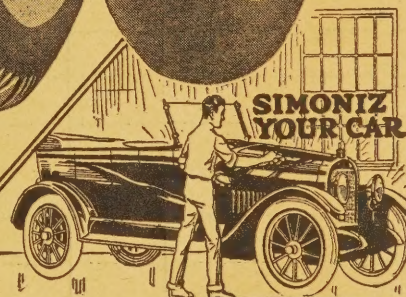
**28A3735½** Anti-Skid Tread Casing, 30x3½-inch size. Shipping weight, about 13 pounds. Price.....**\$12.60**



Plain Tread.

Anti-Skid Tread.

Ribbed Tread.



**SIMONIZ**  
YOUR CAR



### Simoniz (Paste Polish) and Simon's Kleener.

Simoniz gives a lustrous finish that protects the car body surfaces indefinitely against wind, rain and sun. Its application enables you to remove dust, dirt and road splashes from the car without scratching the finish or even washing the body surface. Apply Simoniz to a new car to protect the original lustrous finish of the car from weather and road conditions. Use it also to remove haze from celluloid.

Use Simon's Kleener to clean the car body before applying Simoniz. Use it also to dry clean hood, fenders and other black finished parts of car. It removes spots and stains and freshens dull appearing sections of body finish. Use it on furniture to remove white spots and cologne stains.

Simoniz (Paste Polish) comes in about 5-ounce cans; Simon's Kleener in about 10-ounce cans; you need them both. Shipping weight, either, about 1¼ pounds.

**28A13106** Simoniz (Paste Polish). Price, per can.....**48c**

**28A13107** Simon's Kleener. Price, per can.....**48c**

SEND ALL ORDERS TO SEARS, ROEBUCK AND CO., CHICAGO, ILL.

(OVER)



**CHICAGO,  
ILLINOIS**

**YOUR MONEY, INCLUDING ANY TRANSPORTATION CHARGES YOU PAID, WILL BE IMMEDIATELY RETURNED TO YOU FOR ANY GOODS NOT PERFECTLY SATISFACTORY.**

STATE HOW YOU WANT GOODS SHIPPED BY PLACING AN X IN PROPER SQUARE BELOW.

## Parcel Post



Always allow sufficient money to cover parcel post charges. Weight of packages can be easily figured from the weights given in the catalog descriptions. Knowing the weight and the parcel post zone in which your postoffice is located, measuring from Chicago, you can easily figure the amount of charges required by referring to the parcel post page in our big General Catalog.

## Freight



### Prepaid Freight



Express



**IF THERE IS NO FREIGHT AGENT** at your shipping point you must send money to prepay freight charges. If there is an agent you can pay the freight when shipment reaches you. It is only necessary to prepay when there is no agent at your station.

**HOW TO SEND MONEY.** The best and safest ways to send money are by Postoffice Money Order, Express Money Order, Bank Draft or Check.

DO NOT SEND COIN; it is liable to break through the envelope and be lost. If absolutely necessary to send coin BE SURE to wrap it in strong paper before putting it in the envelope, and then send by REGISTERED MAIL.

SEE OUR BIG GENERAL CATALOG for information about freight and express rates, how to send money, methods of shipment, and other information.

**JUSTICE Tires** can now be shipped by parcel post. In Local Zone and Zones 1, 2 and 3 we can make parcel post shipments on tires up to 70 pounds weight for each package; in all other zones we can make parcel post shipments up to 50 pounds weight for each package.

DO NOT WRITE IN THIS SPACE

SIGN FULL NAME

Date \_\_\_\_\_ 19\_\_

Name \_\_\_\_\_

### Postoffice

## Box

No.

No.

State

**Street**

and No.

GIVE SHIPPING POINT IF DIFFERENT FROM POSTOFFICE.

Name \_\_\_\_\_

(Give name here only when shipment is to be made to another party. If to yourself leave this space blank.)

### Shipping Point

County.

- State

STATE TOTAL AMOUNT OF MONEY  
SENT WITH THIS ORDER

DOLLARS

CENTS

Automobile sundries other than tires can usually be profitably shipped by parcel post on the same basis as automobile tires. If your order cannot be profitably shipped by parcel post, it is generally advisable to make a freight shipment.

When goods are to be shipped by parcel post be sure to send extra money to pay charges, according to parcel post rates.

[illegible]

IF YOU DO NOT USE THIS  
ORDER BLANK AT ONCE PRE-  
SERVE IT FOR FUTURE USE.

**We Can Only Furnish JUSTICE Tires in the Sizes and Styles Listed in Our Catalog.**

IF YOU DO NOT USE THIS  
ORDER BLANK AT ONCE PRE-  
SERVE IT FOR FUTURE USE.

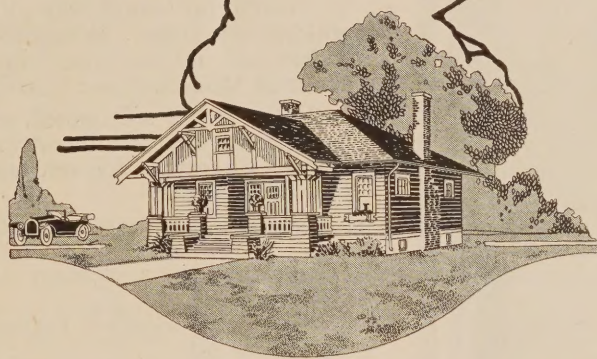
SEE OTHER SIDE  
OF THIS SHEET

**30x3 Inches—Auto Tire and Tube Bargains—30x3½ Inches**

SEE OTHER SIDE  
OF THIS SHEET

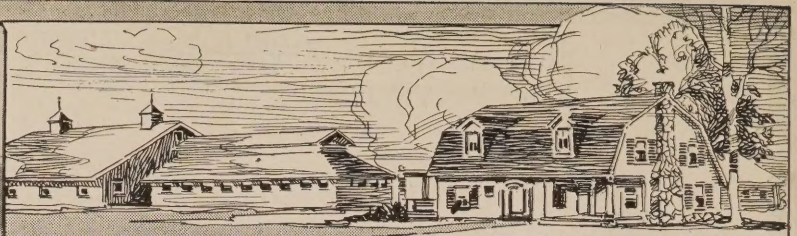
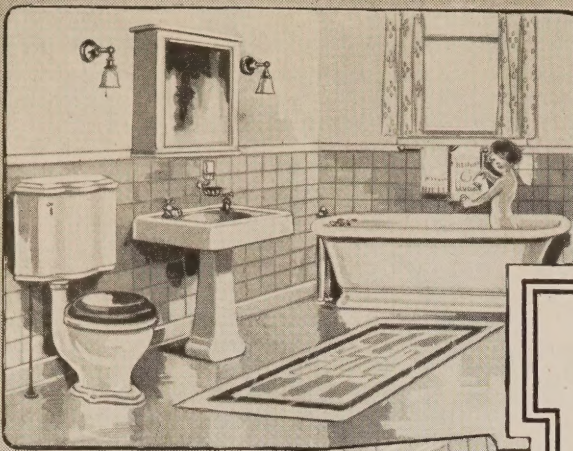


# Home Comforts



**Sears, Roebuck and Co.**  
**Chicago, Illinois.**





## Home Comforts

The Home Comforts, such as running water, sanitary plumbing, modern heating and electric lighting, which are so essential to your health and happiness, may now be purchased on very liberal terms.

There is no reason why you should delay modernizing your home. In the following pages we have endeavored to give you important information about all Modern Home Comforts.

Entire plants are quoted, so you can easily determine just what it will cost you to put in Modern Home Comforts. You can make payments to suit your convenience.

### Here Is What We Require

1. Send as large a payment as you can with the order.
2. Make your Monthly Payments as large as you can afford.
3. Pay interest at rate of 6 per cent per year on balance.

Your interest becomes less each time you make a payment, so you will make a saving by paying in full in the shortest possible time.

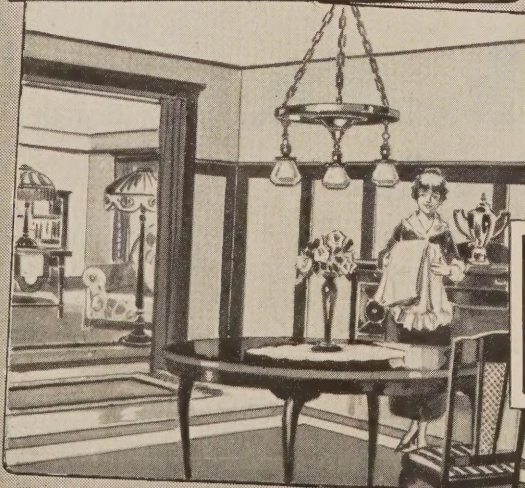
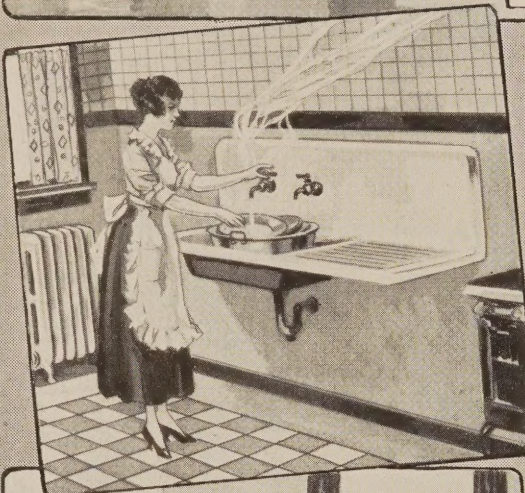
### Combination Outfits

We will gladly make the same terms on combination plants and will be guided by your ability to make payments if you want a combination of two or three outfits amounting to about \$600.00 or more. On large purchases we will extend the time up to five years, so that your monthly payments will be conveniently small.

### Modern Home Comforts Cost Comparatively Little

On the average farm you can have running water, sanitary plumbing, electric lights and a heating plant, all for about \$1,000.00. Spread this cost over a period of five years and the expenditure is hardly noticeable. When the price is so moderate, and the terms so liberal, why shouldn't you make arrangements now to have them?

EVERY LIBRARY  
COLUMBIA UNIVERSITY







### Real Service on Your Purchase.

More important than all else in the contemplated purchase of modern home conveniences is the question of service—not only merchandise of quality and quick shipment of that merchandise, but a service that takes your problem from the very beginning, studies it completely, tells you what is best for you to install, gives your order individual attention when it reaches our store, follows it carefully until it is shipped complete, and keeps in touch with you after installation is made to be sure that everything is just exactly as you expected it. In a word, to make sure that you are absolutely satisfied with the transaction and glad that you gave us your order.

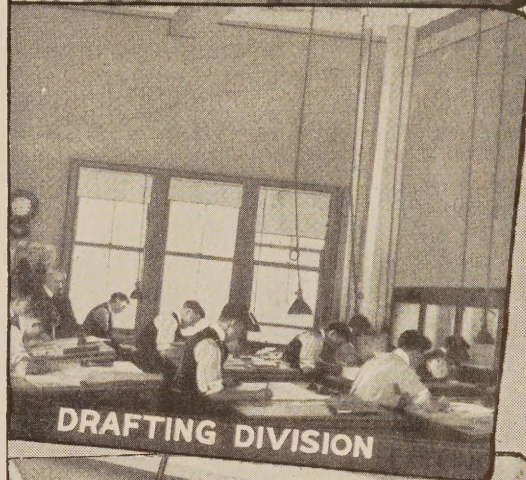
To render a complete service of this kind requires trained men. We have them. Heating engineers who can solve your heating problems; plumbing experts who know by experience what is needed for a plumbing and water supply system to give dependable service; men who are capable of laying out a complete power equipment—engine, line shaft, pulleys, belting—show you how to connect up your cream separator, washing machine, feed mills, etc. A complete service of this kind also requires a purchasing organization that is capable of securing the class of merchandise that will mean utmost satisfaction to the user. Our experience with merchandise in general, and with the market, fits us especially to handle your Home Comfort business in every detail.

### Free Advice on Your Problems.

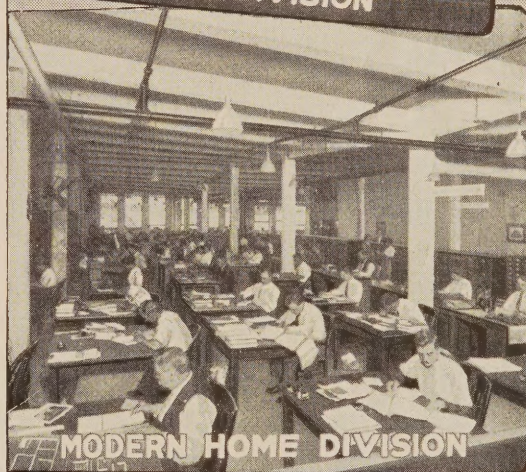
This highly trained service organization is at your disposal. It is ready at all times to take your problems, study them carefully, and offer a reliable, common sense solution—entirely without expense to you. By carefully filling out the information blank enclosed in this catalog, answering all questions fully and giving sketches requested, we can study your problems just as easily as though we were on the ground. We will positively give you the best and most reliable advice possible on every point, and you will be under no obligation to us whatsoever.



ESTIMATING DIVISION



DRAFTING DIVISION



MODERN HOME DIVISION



CORRESPONDENCE DIVISION



# Ever Ready Water Supply Outfits



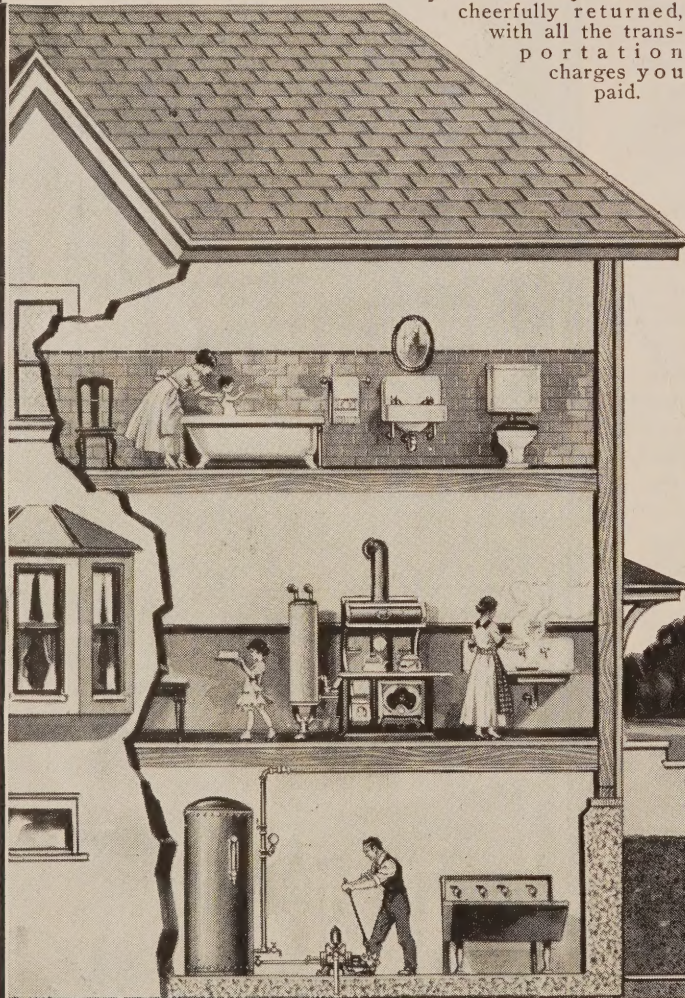
**Install a Modern  
Water Works Outfit in Your Home**

## Pay on Our Easy Payment Plan

**Every Outfit Guaranteed**

All of our Pneumatic Water Supply Systems are guaranteed to give satisfactory service and to be fully up to representation in every way. All parts are carefully made, and these outfits will measure up to the highest standard in workmanship, finish and material. Tanks are heavily built, with double riveted horizontal seams, and are carefully tested and guaranteed airtight. You can take all the time you want to give the outfit a fair trial, and if for any reason whatever you are not entirely satisfied with your purchase, you can return the outfit to us and

your money will be cheerfully returned, with all the transportation charges you paid.



**Easily Installed**

Our Ever Ready Pneumatic Water Supply Systems are very easily installed. It does not require an experienced plumber or pipefitter to connect up any of these outfits, nor does it require an experienced electrician to connect up our Ever Ready Automatic Electric Outfits. All you have to do is attach the plug to any ordinary electric light socket, connect up the pipe and it is ready for use. Full instructions for installing and operating are furnished with all of these various systems, and any man who can cut and thread ordinary iron pipe can easily install any of these outfits by following our simple plans and instructions.

**Write for Our Estimate**

If in doubt as to which outfit will best suit your purpose, fill out one of our special water supply information blanks enclosed with this catalog and return it to us for our special estimate. We will prepare a complete proposition for you on a modern outfit that we will guarantee to take care of your requirements, and you will find our prices very reasonable.

Be sure to tell us whether you wish to pay cash for the outfit, or if you prefer to purchase on our easy payment plan.

Why not act right now? Fill out the information blank and send it to us. We will make you a proposition on one of these modern outfits and you begin at once to enjoy the great conveniences of modern plumbing in your home.

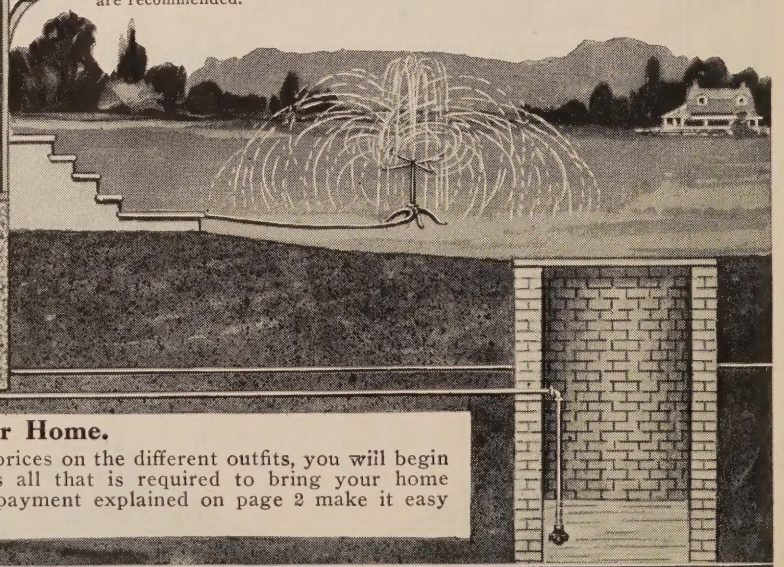
**Fresh, Pure, Running Water at the Turn of a Faucet**

Why continue to carry water for the house, for the stock or the garden, when you can have running water any place you want it on the farm for such a small investment? A small payment down is all that is necessary to bring you any of the modern pneumatic water supply systems listed in this catalog and you can begin at once to enjoy this great convenience.

Did you ever stop to think of the number of tons of water that are carried on the average farm in the course of a year where there is no Modern Water Supply System installed? Just stop a moment and figure the number of bucketfuls of water that you carry from the pump every day, and then figure what this amounts to in the way of hard labor in the course of a year. When this is reduced to actual figures, the result is really startling, and if those folks who continue to carry water day after day could realize how easy it is to eliminate all this unnecessary labor, we feel sure there would not be a farm home in the country without one of these Modern Water Supply Systems.

**We Have Outfits for Every Requirement**

You will find outfits of various types and sizes in this catalog to meet any ordinary requirements. We have Automatic Electric Water Supply Systems, as illustrated and quoted on the opposite page; Hand Power Outfits, as illustrated and quoted on page 6, and Gasoline Engine or Windmill Driven Outfits as illustrated and quoted on pages 7 and 8. The Hand Power Outfits and our Automatic Electric Water Supply Systems are used for pumping water from shallow wells or cisterns. For the farm home or town residence, where electric current is available, the best outfit to install is one of our Automatic Electric Outfits illustrated on the opposite page. If electric current is not available, of course, our Hand Pumping Outfits will give good service. For larger requirements, pumping water on large stock farms, etc., or from real deep wells, our Windmill Driven or Gasoline Engine Driven Outfits, quoted on pages 7 and 8, are recommended.



**Modernize Your Home.**

When you go through these pages and note the prices on the different outfits, you will begin to realize that a comparatively small investment is all that is required to bring your home up to date in every respect. Our liberal terms of payment explained on page 2 make it easy for you.



# Furnish Running Water on Your Place

## Automatic Electric Water Supply Systems

The Modern Water Supply System is the foundation of all plumbing conveniences in the home. After you once have a good reliable water supply system installed, it is a very simple matter to extend the pipes and have running water wherever you want it on your premises.

Our Automatic Electric Water Supply System, illustrated here, will automatically supply running water to your bathroom, kitchen sink, laundry, etc. By installing one of our modern oil or gas water heaters and a range boiler you can have running hot water in your kitchen, bathroom or laundry. These outfits may be used for pumping from wells or cisterns in which the lowest water level is not more than 22 feet below pump. You can extend the piping to your barn for watering stock. If you wish, and have hydrants conveniently placed for lawn or garden sprinkling. All of these conveniences are yours as soon as you have one of these modern outfits installed in your home.

There is nothing complicated or difficult to understand about this outfit. It is easy to connect up. As far as the electrical part is concerned it is just as easy to connect up as an ordinary electric flatiron; just screw the plug into any electric light socket, turn the button and the outfit immediately starts pumping.

A suction pipe is, of course, extended to your well, and discharge pipe from the pump is connected to the water supply in your home. Any man who can cut and thread ordinary iron pipe can easily install this outfit in a few hours. When once installed, aside from the occasional supplying of oil, it needs no further attention. It starts and stops automatically, and will always keep a liberal supply of fresh water under pressure in the tank, and the moment you open a faucet anywhere on the piping system you will get a plentiful supply of water.

The tank is made of steel and is capable of withstanding from two to three times the pressure under which it is placed. It is listed in both black and galvanized.

The pump is of a type embodying the latest improvements of the most reliable electric house pumps now in use and, in addition, has several exclusive features which add much to the efficiency and life of the system.

## Sold on Easy Payments

It has a capacity of 125 gallons per hour. It is self priming and has a splash system of oiling, which makes it operate with little or no noise.

The motor is built especially to meet the requirements of this system. It is made by one of the largest electric motor manufacturers and is of the latest approved design.

The automatic switch starts and stops the motor, keeping the pressure between 20 and 35 pounds. It is of simple construction and has but few working parts. By merely tightening or loosening a nut at the top of the switch, either a higher or lower pressure can be maintained.

The valves and gauges consist of a brass relief valve, a stop or shut-off valve, a pressure gauge and a water gauge. The relief valve is a safeguard, preventing an excess pressure upon the system should the regulating switch ever fail to work properly. The pressure gauge shows the pressure on the system and the water gauge indicates the height of the water in the tank.

With each outfit we furnish a guarantee which protects you absolutely against inferior workmanship or material; also full directions for installing.

Automatic electric outfits cannot be used where the suction lift is more than 22 feet.

**269A2715½**—Outfit with 18-inch by 4-foot black steel tank. Total capacity, 53 gallons; working capacity, 42 gallons. Shipping weight, 290 pounds.

Price, on easy payments.....\$119.45

**269A2716½**—Outfit as above, with galvanized tank instead of black.

Price, on easy payments.....\$123.90

**269A2717½**—Outfit as above, with 20-inch by 5-foot black steel tank. Total capacity, 82 gallons; working capacity, 65 gallons. Shipping weight, 460 pounds.

Price, on easy payments.....\$125.55

**269A2718½**—Outfit same as 269A2717½, except with galvanized tank instead of black.

Price, on easy payments.....\$133.90

**269A2674½**—Pump switch and motor only, as illustrated. Shipping weight, 100 pounds.

Price, on easy payments.....\$84.00

## MAKE YOUR OWN TERMS.

See Page 2.

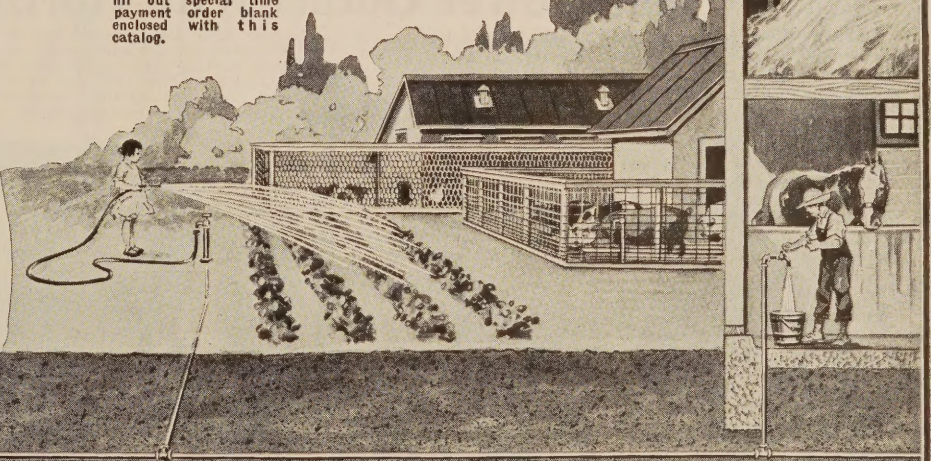
Pump with motor and automatic switch on all above outfits shipped from factory in OHIO; tanks from factory in ILLINOIS; gauges and valves from our CHICAGO store.

### When Ordering.

When ordering any of the above outfits be sure to state whether the electric current is direct or alternating; also give the voltage, and, if alternating, whether one, two or three-phase and the cycles. This information can be obtained from the company furnishing the electricity.

When ordering please fill out special time payment order blank enclosed with this catalog.

Attach the screw plug of this outfit to any electric light socket just as you would an ordinary electric flatiron or washing machine, connect the pipes and it is ready for use. Nothing complicated about it. A skilled electrician or plumber not required. Anyone can easily install these outfits in a few hours' time by following our simple instructions. Why be without this great convenience?

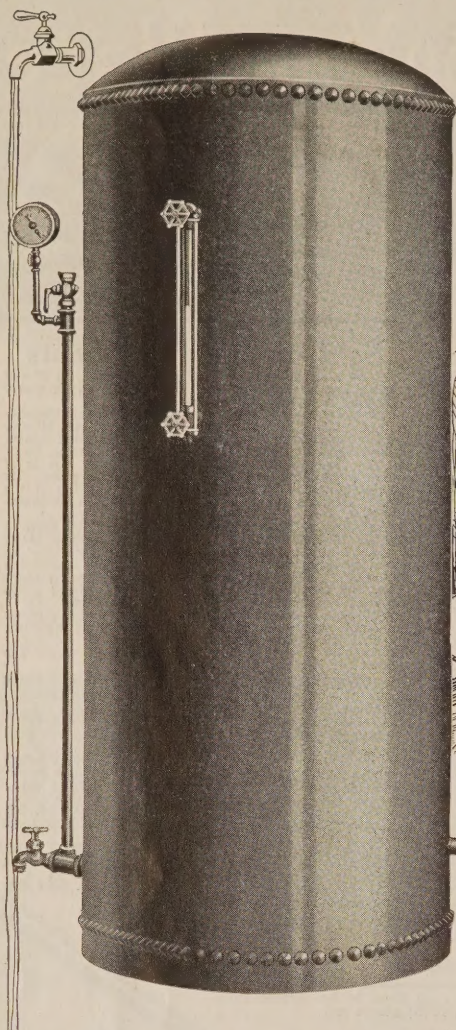


## The Size of Outfit You Will Need.

To determine the size water supply system you will need to take care of your requirements, it is first necessary, of course, to estimate as accurately as you can the average number of gallons of water that are used on your premises per day. The average family uses from 75 to 150 gallons of water per day for the house alone. Then, of course, if you have stock to take care of, it will be necessary for you to make allowance for this. Always select an outfit with a little excess capacity.

An automatic outfit as described above need not be as large as a hand power outfit or a gasoline engine driven outfit, where it is necessary for you to start the outfit each time yourself. For instance, it would do no harm if the automatic electric outfit starts up two or three times a day, while it would be rather inconvenient for you to have to start the outfit yourself. Our outfit 269A2715½ will readily supply your requirements up to about 250 gallons of water per day, and the other outfits have proportionately greater capacities.



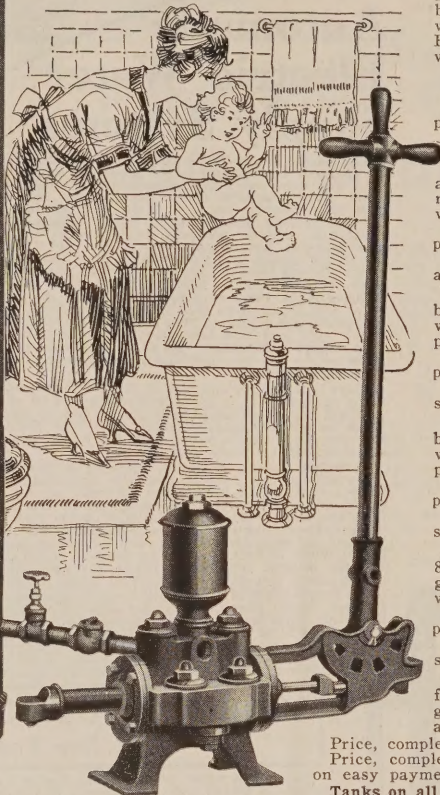


# Hand Power Pneumatic Water Supply Systems for Shallow Wells or Cisterns

**Efficient, Reliable, Inexpensive**

**For Wells Up to 25 Feet Deep. Hand Power Outfits for Shallow Wells or Cisterns.**

Our Ever Ready Pneumatic Water Supply System illustrated on this page will force water wherever you wish to extend the pipe and connect a faucet. With one of these outfits you can have all the conveniences of modern plumbing. A sink, bathtub, lavatory or water closet with hot and cold water always on tap. **The first cost is the only cost.** Fifteen minutes' pumping each day supplies sufficient water for the ordinary household.



## Vertical Tank Outfits.

**269A2043½**—Outfit with one vertical black steel pneumatic tank, 24 inches in diameter by 6 feet high. Total capacity, 140 gallons; working capacity, 100 gallons. One double acting force pump with 3-inch brass lined water cylinder and brass air pump attached, and all necessary valves, gauges and connections, etc., as shown in illustration. Shipping weight, 470 pounds.

Price, complete, with black tank, on easy payments ..... \$62.90

Price, complete, with tank galvanized inside and out, on easy payments..... 89.70

**269A2044½**—Outfit as above, with tank 6 feet high by 30 inches in diameter. Total capacity, 220 gallons; working capacity, 150 gallons. Shipping weight, 660 pounds.

Price, complete, with black tank, on easy payments ..... \$ 81.00

Price, complete, with tank galvanized inside and out, on easy payments..... 108.70

**269A2046½**—Outfit as above, with tank 6 feet high by 36 inches in diameter. Total capacity, 315 gallons; working capacity, 215 gallons. Shipping weight, 860 pounds.

Price, complete, with black tank, on easy payments ..... \$ 99.40

Price, complete, with tank galvanized inside and out, on easy payments..... 138.60

**269A2045½**—Same as above, using 30-inch by 8-foot vertical black steel tank. Total capacity, 295 gallons; working capacity, 200 gallons. Shipping weight, about 775 pounds.

Price, complete, with black tank, on easy payments ..... \$ 90.60

Price, complete, with tank galvanized inside and out, on easy payments..... 124.20

**269A2602½**—Same as above, using 36-inch by 8-foot vertical black steel tank. Total capacity, 420 gallons; working capacity, 280 gallons. Shipping wt., about 1,025 pounds.

Price, complete, with black tank, on easy payments...\$112.70

Price, complete, with tank galvanized inside and out, on easy payments..... 160.10

Tanks on all of above outfits shipped from factory in CENTRAL ILLINOIS; pumps and trimmings from our CHICAGO store.

When Ordering Please Use Special Easy Payment Order Blank Enclosed With This Catalog.

**Make Your Own Terms. See Page 2.**

## Hand Power Outfits With Horizontal Tanks

**269A2605½**—Outfit with one 30-inch by 6-foot horizontal black steel tank. Total capacity, 220 gallons; working capacity, 150 gallons; one special horizontal double acting force pump with 3-inch brass lined cylinder and hydropneumatic cylinder attached, one 1-inch gate valve, one 1-inch check valve, one water gauge complete, one pressure gauge, one ¾-inch stop and waste cock, one ½-inch hose bibb, two tank supports fitted to curvature of tank, together with pipe and fittings cut and threaded, as shown in illustration. Shipping weight, about 575 pounds.

Price, complete, with black tank, on easy payments ..... \$ 84.00

Price, complete, with tank galvanized inside and out, on easy payments..... 112.00

**269A2606½**—Same as above, using 24-inch by 10-foot horizontal black steel tank. Total capacity, 235 gallons; working capacity, 160 gallons. Shipping wt., about 655 pounds.

Price, complete, with black tank, on easy payments ..... \$ 87.40

Price, complete, with tank galvanized inside and out, on easy payments..... 121.00

**269A2608½**—Same as above, using 30-inch by 8-foot horizontal black steel tank. Total capacity, 295 gallons; working capacity, 200 gallons. Shipping weight, about 810 pounds.

Price, complete, with black tank, on easy payments.....\$ 96.40

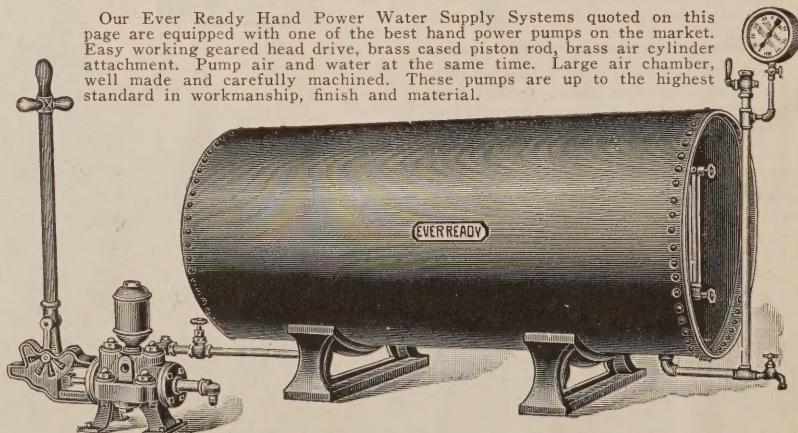
Price, complete, with tank galvanized inside and out, on easy payments ..... 130.00

**269A2610½**—Same as 269A2605½, using 30-inch by 10-foot horizontal black steel tank. Total capacity, 365 gallons; working capacity, 250 gallons. Shipping weight, about 925 pounds.

Price, complete, with black tank, on easy payments.....\$108.85

Price, complete, with tank galvanized inside and out, on easy payments ..... 150.80

Our Ever Ready Hand Power Water Supply Systems quoted on this page are equipped with one of the best hand power pumps on the market. Easy working geared head drive, brass cased piston rod, brass air cylinder attachment. Pump air and water at the same time. Large air chamber, well made and carefully machined. These pumps are up to the highest standard in workmanship, finish and material.



**269A2612½**—Same as above, using 36-inch by 8-foot horizontal black steel tank. Total capacity, 420 gallons; working capacity, 280 gallons. Shipping weight, about 1,060 pounds.

Price, complete, with black tank, on easy payments..... \$118.75

Price, complete, with tank galvanized inside and out, on easy payments ..... 166.40

**269A2614½**—Same as above, using 36-inch by 10-foot horizontal black steel tank. Total capacity, 525 gallons; working capacity, 350 gallons. Shipping weight, about 1,220 pounds.

Price, complete, with black tank, on easy payments.....\$133.00

Price, complete, with tank galvanized inside and out, on easy payments ..... 188.90



# EVER READY WATER SUPPLY OUTFITS

## For Deep or Shallow Wells or Cisterns

Any of these outfits furnished with vertical tank if desired. After you have picked out the size you want, be sure to read on page 4 how to figure the pipe needed.

**269A2627½**—Outfit. One 30-inch by 6-foot horizontal black steel tank. Total capacity, 220 gallons; working capacity, 150 gallons; one special deep well double acting force pump, 2½x16-inch brass body water cylinder, one 3-inch hydropneumatic cylinder, one water gauge complete, one pressure gauge, one 1-inch check valve, one 1-inch gate valve, one ¾-inch stop and waste cock, one ½-inch hose bibb, two tank supports fitted to curvature of tank, together with pipe and fittings, as shown in the illustration. Shipping weight, about 680 pounds.

Price on easy payments.....\$104.50  
Price on easy payments, complete, with tank galvanized inside and out.....132.30

**269A2630½**—Same as above, using 30-inch by 8-foot horizontal black steel tank. Total capacity, 295 gal.; working capacity, 200 gal. Shpg. wt., abt. 915 lbs.

Price on easy payments.....\$116.90  
Price on easy payments, complete, with tank galvanized inside and out.....150.45

**269A2632½**—Same as above, using 36-inch by 8-foot horizontal black steel tank. Total capacity, 420 gal.; working capacity, 280 gal. Shpg. wt., abt. 1,160 lbs.

Price on easy payments.....\$139.10  
Price on easy payments, complete, with tank galvanized inside and out.....186.70

**269A2634½**—Same as above, using 36-inch by 10-foot horizontal black steel tank. Total capacity, 525 gal.; working capacity, 350 gal. Shpg. wt., abt. 1,325 lbs.

Price on easy payments.....\$153.15  
Price on easy payments, complete, with tank galvanized inside and out.....209.10

The tanks are shipped from factory in CENTRAL ILLINOIS; pump and trimmings from our CHICAGO store.

**Make Your Own Terms. See Page 2.**

**Make Your Own Terms.  
See Page 2.**



Any of the Pneumatic Water Supply Systems listed on this page can be furnished with vertical tanks if desired instead of horizontal tanks. Write for special estimate.

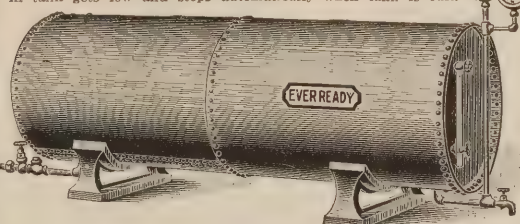


**Wind-mill Driven Outfits**

## Horizontal Tank Outfits With Automatic Windmill Regulator Pump to Be Operated by Hand or Windmill

The special feature of this outfit is the automatic cut-out mechanism which automatically throws the windmill power on or off the pump depending upon the amount of pressure in the tank. By shifting position of weight on long lever, any desired pressure may be maintained in tank.

Requires no attention. Pump starts automatically when water in tank gets low and stops automatically when tank is full.



**269A2637½**—One 30-inch by 6-foot horizontal black steel tank. Total capacity, 220 gallons; working capacity, 150 gallons; one special deep well windmill regulator force pump, one 2½x16-inch brass body water cylinder, one special 3-inch hydropneumatic cylinder, one water gauge complete, one pressure gauge, one 1-inch gate valve, one 1-inch check valve, one ¾-inch stop and waste cock, one ½-inch hose bibb, two tank supports fitted to curvature of tank, together with the pipe and fittings shown in the illustration. Shipping weight, about 740 pounds.

Price on easy payments.....\$111.70  
Price on easy payments, complete, with tank galvanized inside and out.....139.60

**269A2638½**—Same as above, using 24-inch by 10-foot horizontal black steel tank. Total capacity, 235 gallons; working capacity, 160 gallons. Shipping weight, about 820 pounds.

Price on easy payments.....\$115.00  
Price on easy payments, complete, with tank galvanized inside and out.....148.65

**269A2640½**—Same as above, using 30-inch by 8-foot horizontal black steel tank. Total capacity, 295 gallons; working capacity, 200 gallons. Shipping weight, about 975 pounds.

Price on easy payments.....\$124.00  
Price on easy payments, complete, with tank galvanized inside and out.....157.50

**269A2088½**—Same as above, using 36-inch by 6-foot horizontal black steel tank. Total capacity, 315 gallons; working capacity, 210 gallons. Shipping weight, about 1,055 pounds.

Price on easy payments.....\$130.50  
Price on easy payments, complete, with tank galvanized inside and out.....169.60

**269A2642½**—Same as above, using 36-inch by 8-foot horizontal black steel tank. Total capacity, 420 gallons; working capacity, 280 gallons. Shipping weight, about 1,220 pounds.

Price on easy payments.....\$146.50  
Price on easy payments, complete, with tank galvanized inside and out.....193.95

**269A2644½**—Same as above, using 36-inch by 10-foot horizontal black steel tank. Total capacity, 525 gallons; working capacity, 350 gallons. Shipping weight, about 1,385 pounds.

Price on easy payments.....\$160.45  
Price on easy payments, complete, with tank galvanized inside and out.....216.45

## For Deep or Shallow Wells or Cisterns.

**269A2617½**—One 30-inch by 6-foot horizontal black steel tank. Total capacity, 220 gallons; working capacity, 150 gallons; one special double acting windmill force pump, one 2½x16-inch brass body water cylinder, one special intake air valve, one 1-inch gate valve, one 1-inch check valve, one water gauge complete, one pressure gauge, one ¾-inch stop and waste cock, one ½-inch hose bibb, two tank supports fitted to curvature of tank, together with pipe and fittings cut and fitted, as shown on inside of basement wall in the illustration. Shipping weight, about 655 pounds.

Price on easy payments.....\$ 90.00  
Price on easy payments, complete, with tank galvanized inside and out.....118.00

**269A2618½**—Same as above, using 24-inch by 10-foot horizontal black steel tank. Total capacity, 235 gallons; working capacity, 160 gallons. Shipping weight, about 735 pounds.

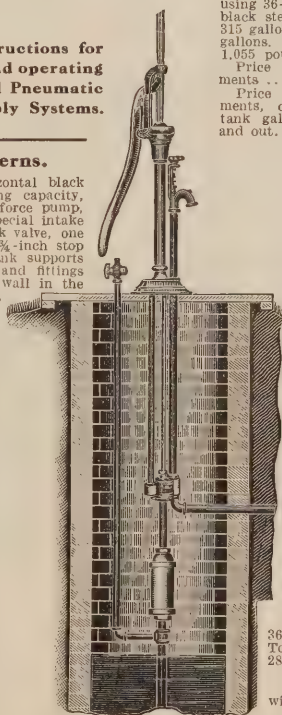
Price on easy payments.....\$ 93.40  
Price on easy payments, complete, with tank galvanized inside and out.....127.00

**269A2620½**—Same as above, using 30-inch by 8-foot horizontal black steel tank. Total capacity, 295 gallons; working capacity, 200 gallons. Shipping weight, about 890 pounds.

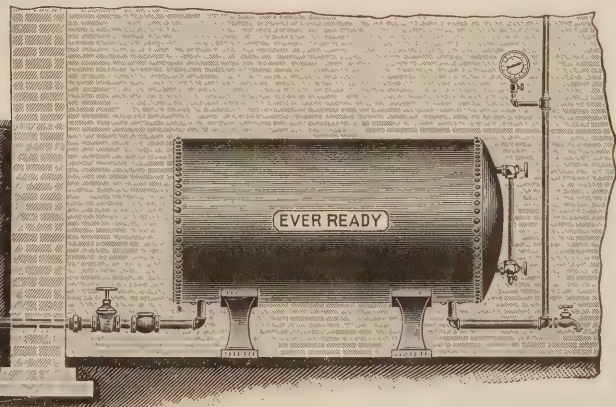
Price on easy payments.....\$102.40  
Price on easy payments, complete, with tank galvanized inside and out.....136.00

**269A2086½**—Same as above, using 36-inch by 6-foot horizontal black steel tank. Total capacity, 315 gallons; working capacity, 210 gallons. Shipping weight, about 970 pounds.

Price on easy payments.....\$108.90  
Price on easy payments, complete, with tank galvanized inside and out.....148.05



**Make Your Own Terms. See Page 2.**



**269A2622½**—Same as 269A2086½ using 36-inch by 8-foot horizontal black steel tank. Total capacity, 420 gallons; working capacity, 280 gallons. Shipping weight, about 1,140 lbs.

Price on easy payments.....\$125.00  
Price on easy payments, complete, with tank galvanized inside and out.....172.20

**269A2624½**—Same as 269A2086½, using 36-inch by 10-foot horizontal black steel tank. Total capacity, 525 gallons; working capacity, 350 gallons. Shipping weight, about 1,300 lbs.

Price on easy payments.....\$138.90  
Price on easy payments, complete, with tank galvanized inside and out.....194.85

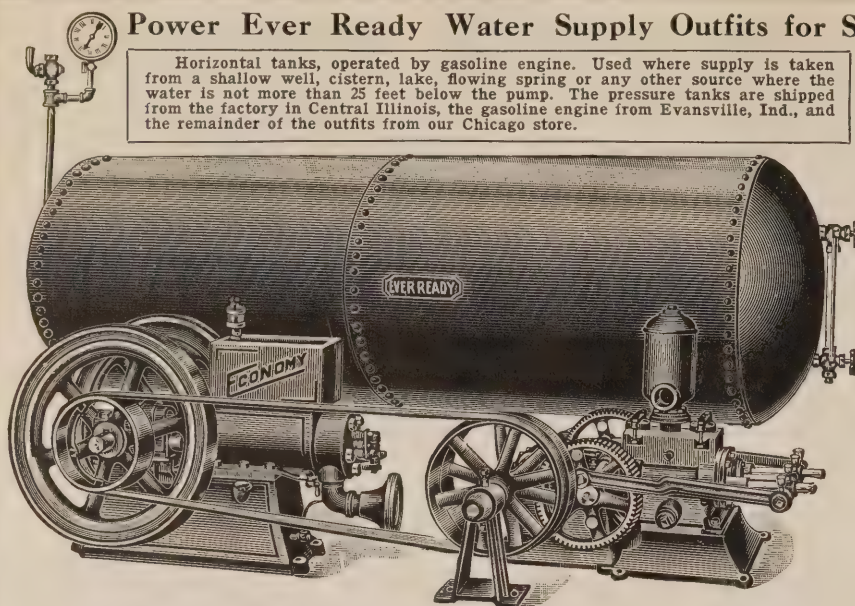
**Make Your Own Terms. See Page 2.**

When ordering please use special time payment order blank enclosed with this catalog.



## Power Ever Ready Water Supply Outfits for Shallow Wells or Cisterns

Horizontal tanks, operated by gasoline engine. Used where supply is taken from a shallow well, cistern, lake, flowing spring or any other source where the water is not more than 25 feet below the pump. The pressure tanks are shipped from the factory in Central Illinois, the gasoline engine from Evansville, Ind., and the remainder of the outfits from our Chicago store.



### OUTFIT 269A2646 1/2

One 30-inch by 10-foot horizontal black steel tank. Total capacity, 365 gallons; working capacity, 250 gallons; one Hercules heavy duty double acting force pump, back geared 5 to 1; capacity per hour, 720 gallons; one pressure gauge, one water gauge complete, one 1/4-inch check valve, one 1/4-inch gate valve, one 1-inch water relief valve; one 3/4-inch stop and waste cock, one 1/2-inch hose bibb, two iron tank supports fitted to curvature of tank; all pipe, fittings and belt shown in the illustration; one 2 1/2 horse-power Economy Gasoline Engine. Shipping weight, about 1,695 pounds.

### Make Your Own Terms. See Page 2.

Price, complete.....\$250.00  
Price, complete, with tank galvanized inside and out..... 292.00

### OUTFIT 269A2648 1/2

Same as above, using 36-inch by 8-foot horizontal black steel tank. Total capacity, 420 gallons; working capacity, 280 gallons. Shipping weight, about 1,825 lbs.  
Price, complete.....\$260.00  
Price, complete, with tank galvanized inside and out..... 307.70

### OUTFIT 269A2650 1/2

Same as above, using 36-inch by 12-foot horizontal black steel tank. Total capacity, 630 gallons; working capacity, 420 gallons. Shipping weight, about 2,150 pounds.  
Price, complete.....\$288.35  
Price, complete, with tank galvanized inside and out... 352.95

### OUTFIT 269A2652 1/2

Same as above, using 42-inch by 10-foot horizontal black steel tank. Total capacity, 720 gallons; working capacity, 480 gallons. Shipping weight, about 2,585 pounds.  
Price, complete.....\$326.20  
Price, complete, with tank galvanized inside and out... 415.75

### OUTFIT 269A2654 1/2

Same as above, using 42-inch by 12-foot horizontal black steel tank. Total capacity, 865 gallons; working capacity, 580 gallons. Shipping weight, about 2,850 pounds.  
Price, complete.....\$348.10  
Price, complete, with tank galvanized inside and out... 451.65

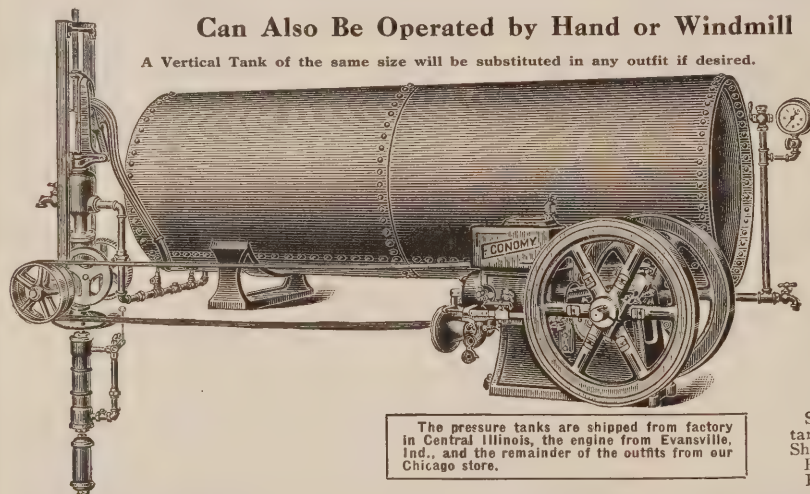
### OUTFIT 269A2656 1/2

Same as above, using 42-inch by 14-foot horizontal black steel tank. Total capacity, 1,000 gallons; working capacity, 670 gallons. Shipping weight, about 3,110 pounds.  
Price, complete.....\$370.10  
Price, complete, with tank galvanized inside and out... 487.70

## Gasoline Engine, Horizontal Tank and Combination Working Head for Deep Wells

### Can Also Be Operated by Hand or Windmill

A Vertical Tank of the same size will be substituted in any outfit if desired.



The pressure tanks are shipped from factory in Central Illinois, the engine from Evansville, Ind., and the remainder of the outfits from our Chicago store.

### OUTFIT 269A2658 1/2

One 30-inch by 10-foot horizontal black steel tank. Total capacity, 365 gallons; working capacity, 250 gallons; one special deep well working head for heavy duty, back geared 8 to 1; one 3-inch by 16-inch brass body water cylinder, one 3/2-inch hydropneumatic cylinder, one water gauge complete, one pressure gauge, one 1/4-inch gate valve, one 1/4-inch check valve, one 1-inch water relief valve, one 3/4-inch stop and waste cock, one 1/2-inch hose bibb, two tank supports fitted to curvature of tank; all pipe, fittings and belts shown in the illustration; one 2 1/2 horse-power Economy Gasoline Engine, fitted with magneto. Shipping weight, about 1,690 pounds.

### Make Your Own Terms. See Page 2.

Price, complete.....\$241.65  
Price, complete, with tank galvanized inside and out..... 283.65

### OUTFIT 269A2660 1/2

Same as above, using 36-inch by 8-foot horizontal black steel tank. Total capacity, 420 gallons; working capacity, 280 gallons. Shipping weight, about 1,820 pounds.  
Price, complete.....\$251.75  
Price, complete with tank galvanized inside and out... 299.25

### OUTFIT 269A2662 1/2

Same as above, using 36-inch by 12-foot horizontal black steel tank. Total capacity, 630 gallons; working capacity, 420 gallons. Shipping weight, about 2,145 pounds.  
Price, complete.....\$279.90  
Price, complete, with tank galvanized inside and out... 344.55

### OUTFIT 269A2664 1/2

Same as above, using 42-inch by 10-foot horizontal black steel tank. Total capacity, 720 gallons; working capacity, 480 gallons. Shipping weight, about 2,580 pounds.  
Price, complete.....\$317.85  
Price, complete, with tank galvanized inside and out... 407.65

### OUTFIT 269A2666 1/2

Same as above, using 42-inch by 12-foot horizontal black steel tank. Total capacity, 865 gallons; working capacity, 580 gallons. Shipping weight, about 2,845 pounds.  
Price, complete.....\$339.75  
Price, complete, with tank galvanized inside and out... 443.30

### OUTFIT 269A2668 1/2

Same as above, using 42-inch by 14-foot horizontal black steel tank. Total capacity, 1,000 gallons; working capacity, 670 gallons. Shipping weight, about 3,110 pounds.  
Price, complete.....\$361.70  
Price, complete, with tank galvanized inside and out... 479.25

For a complete description of our gasoline engines refer to pages 55 and 56.

## Ever Ready Pressure Tanks

We recommend that our customers order Ever Ready Outfits complete, as our pumps, valves, fittings, etc., are made especially for Water Supply Outfits, and complete outfits as specified and furnished by us will give perfect satisfaction; whereas, trouble will sometimes occur with outfits where tanks are connected with pumps, valves and fittings that are not made especially for this work. For the benefit of our customers, however, who desire tanks only, we give a list of the different sizes always carried in stock at our factory. All prices are for the tanks delivered on the cars at the factory in CENTRAL ILLINOIS.

These tanks are made of flange steel, having a tensile strength of 60,000 pounds; all longitudinal seams are double riveted and the tanks are tested to an air pressure of 125 pounds before leaving our factory. Ever Ready tanks are guaranteed and we will replace any tank that is found defective or that will not hold air.

### Make Your Own Terms. See Page 2.

BE SURE TO STATE WHETHER YOU WANT TANK TO SET HORIZONTALLY OR VERTICALLY.

### 269A2089 1/2 — Ever Ready Steel Tanks.

Diameter, Inches	Length, Feet	Shpg. Wt., Lbs.	Capacity, Gallons	THICKNESS, IN.		PRICE	
				Shell	Head	Black	Galvanized
24	5	350	120	3/8	1/2		
24	6	400	140	3/8	1/2		
24	10	600	235	3/8	1/2		
30	6	500	220	3/8	1/2		
30	8	600	295	3/8	1/2		
30	10	750	365	3/8	1/2		
36	6	700	315	3/8	1/2		
36	8	850	420	3/8	1/2		
36	10	1,000	525	3/8	1/2		
36	12	1,500	630	3/8	1/2		
42	8	1,400	575	3/8	1/2		
42	10	1,600	720	3/8	1/2		
42	12	1,850	865	3/8	1/2		
42	14	2,100	1,000	3/8	1/2		
48	14	2,500	1,300	3/8	1/2		
48	16	2,800	1,500	3/8	1/2		
48	20	3,400	1,850	3/8	1/2		
48	24	3,900	2,260	3/8	1/2		

Prices on Application

Prices on Application



# Our Plumbing Systems Easily Installed

The illustration on this page shows a "cut away" view of our modern plumbing systems installed in the average building.

There is not a single connection in this entire installation which can not be readily understood and easily made by anyone who follows our simple plans and instructions.

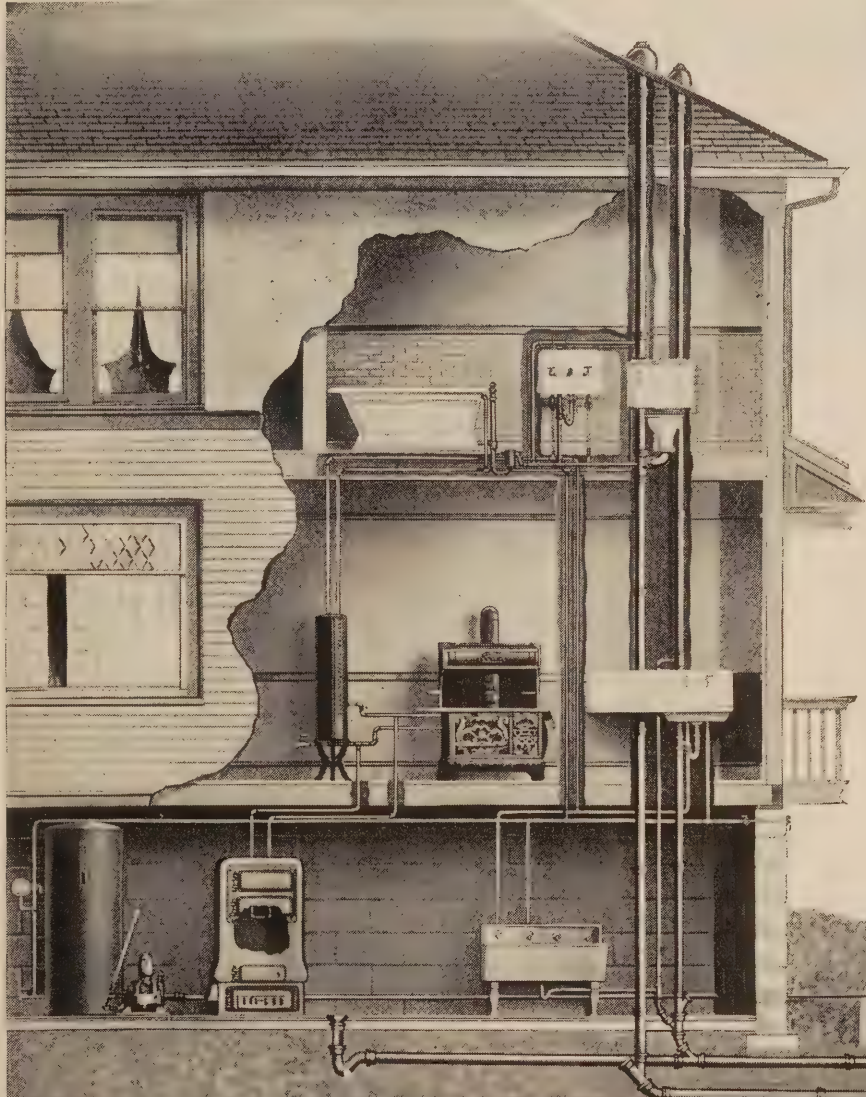
There is nothing mysterious or difficult about any part of this entire work. Any man who can cut and thread ordinary iron pipe and screw it together can easily install any of our complete plumbing systems.

If you do not care to do the work yourself you can get in touch with some handy man in your locality and let him do the work for you.

It will pay you well to look after the installation of the material yourself even though you may not do the actual work. Many of our customers have followed this plan and by so doing say they have saved anywhere from \$50.00 to \$200.00 on their complete plumbing systems.

It usually is not difficult to find a good handy man who will be willing to undertake this work for you at a fair working wage. He does not necessarily have to be an experienced plumber.

By overseeing the installation yourself you will get just as good or perhaps a more satisfactory job than you would if you let the job by contract and did not personally supervise the work.



We have prepared a very interesting book showing every step in the installation of the plumbing outfit. It is written in very easy to understand language. This book is furnished to everyone who purchases plumbing supplies from us.



*"Now we're all set, Son. We have the tools, we have the Instruction Book, and we have the hands. It looks to me as though ANYONE, even if he'd never laid a pipe in his life, could do pretty nearly a perfect plumbing job if he followed the instructions in this book and watched the illustrations. Everything seems perfectly plain to me. Let's get started."*

## Our Prices Mean a Big Saving to You.

Our prices on plumbing supplies mean a big saving to you and our fixtures are all first quality.

It is not hard to understand why we are able to offer this material to you at such a great saving, when you stop to consider that under our plan of merchandising the material goes direct from our factory to you; all unnecessary handling and transportation is eliminated and you reap the benefit and lower prices.

The quality of our material is equal to the best. We do not sell second grade or class B plumbing fixtures, and you can place your order for any article in this catalog feeling confident that you will receive a fixture that is strictly perfect in every respect.

The strong liberal guarantee of Sears, Roebuck and Co. is back of every plumbing system we sell and every article in this catalog. You run no risk.

## To Get Our Estimate.

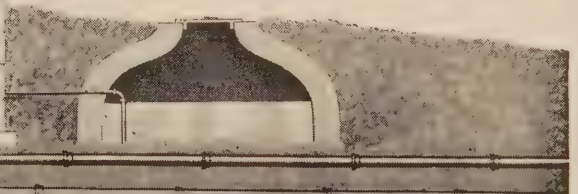
Our Information Blank explains fully just what information we need in order to prepare an estimate for you on a complete plumbing system for your building.

If you do not find one of these blanks enclosed in this catalog, send us a sketch of your building, showing how you prefer to have the fixtures located; state what particular fixtures you would like to have us include in our estimate, and we will prepare a complete estimate for you on a plumbing system that we will guarantee to give you satisfaction.

If it will be necessary for you to follow any city ordinances, please obtain a copy of the ordinances of your town from your local authorities, and we will estimate your plumbing system accordingly.

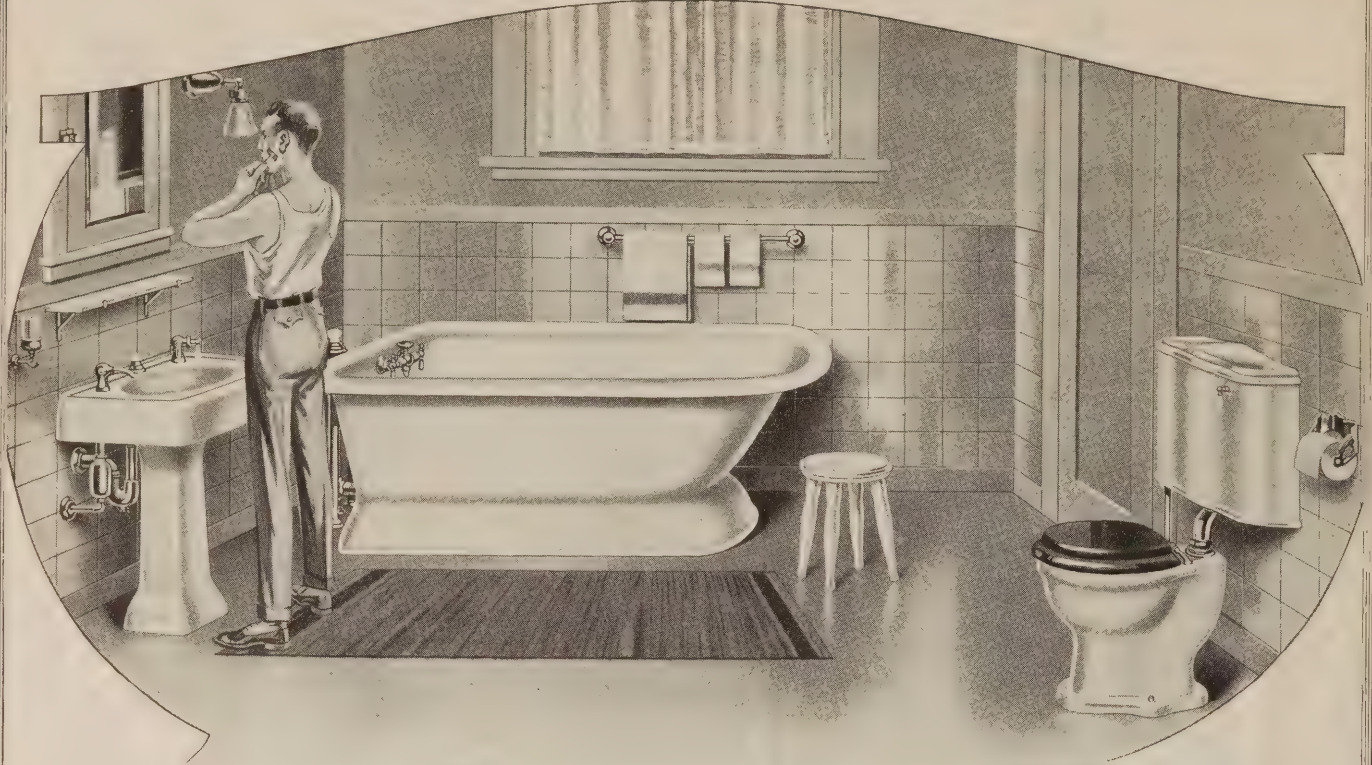
Remember, you will make a big saving by taking advantage of our liberal offer and it will be to your interests to get our figures.

WELL OR CISTERN.





# Modern Bathroom Outfits



## Ideal Bathroom Outfit

Here is an outfit at a moderate price that would be appropriate for the finest mansion. What a pride it will be to have an outfit like this installed in your home.

**BATHTUB** is 5 feet long, 30 inches wide over rim at top and about 17 inches deep inside. Cast iron, with a 3-inch roll rim and base, all cast in one piece. Entire tub, excepting under side of the base, glazed with white porcelain enamel. Standard Fuller pattern No. 4½ bath cock, with china handles, marked "hot" and "cold"; 1½-inch Model waste and overflow, with china top marked "waste," and two ½-inch supply pipes, all brass, nickel plated.

**LAVATORY** is of the square pattern, with top measuring 20 inches from front to back and 24 inches wide. Square pedestal. Inside, top and apron of lavatory and pedestal are glazed with white porcelain

enamel. 1¼-inch trap with outlet to wall. Model waste; two Fuller pattern cocks with china handles, marked "hot" and "cold," and two ¾-inch

bottle air chamber supply pipes to wall. All trimmings nickel plated.

**CLOSET** has siphon jet bowl of vitreous earthenware and chinaware tank. Seat polished, well seasoned, quarter sawed oak, fitted with nickel plated brass hinges. China handle flush lever, nickel plated; ⅜-inch supply pipe from tank to floor.

Bathtub and lavatory shipped from **LAYTON PARK, WIS.** Shipping weight, about 670 pounds. Closet shipped from our **CHICAGO** store. Shipping weight, about 130 pounds.

## Special Combination Offer

This combination consists of bathtub, lavatory and closet as above described, and kitchen outfit No. 1, on page 14, or No. 2, on page 15, with sufficient galvanized pipe and fittings to install in the average size six-room house, piping to run to the point where your water supply enters the building, also sufficient soil pipe to run from ground to roof, with calking lead and oakum for the joints.

**269A9279**—Ideal Bathroom Outfit complete, together with kitchen outfit No. 1, shown on page 14.

Price .....\$221.80

**269A9280**—Ideal Bathroom Outfit complete, together with kitchen outfit No. 2, shown on page 15.

Price .....\$225.15

**Make Your Own Terms. See Page 2.**

## Special Ordinances

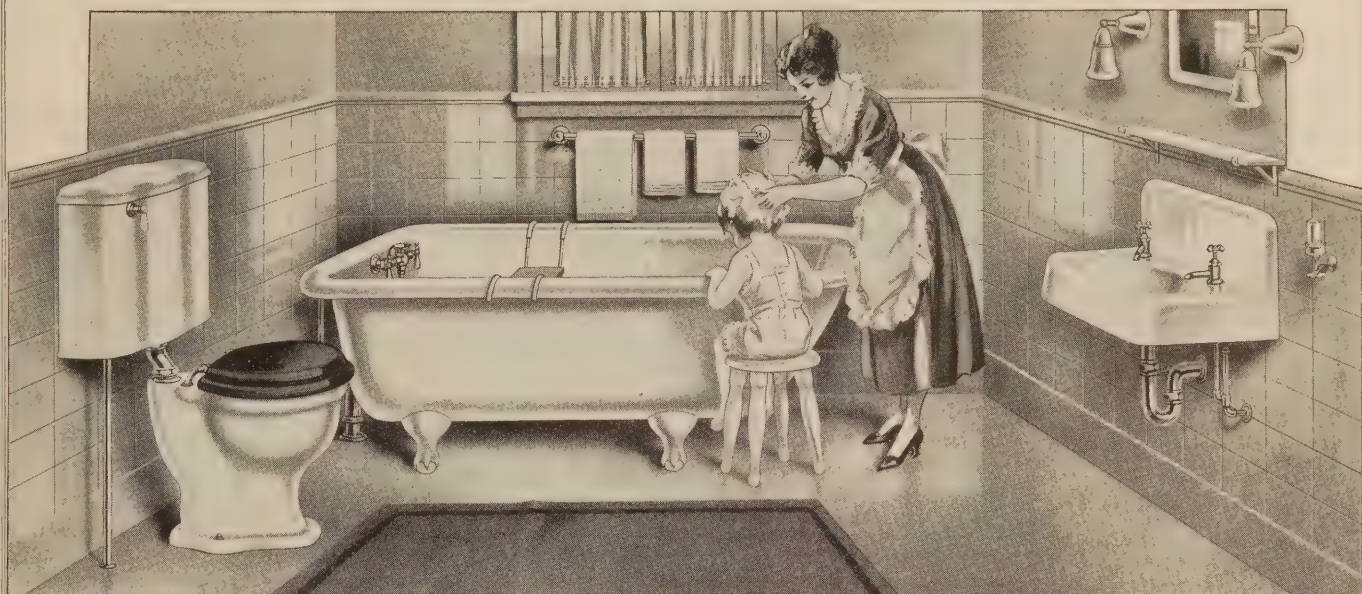
At price quoted above we have provided a good sanitary plumbing system, guaranteed to give satisfactory service, and suitable for the average two-story residence. Ordinances of various cities differ widely. Some require more and some less pipe and fittings. If you are required to follow special city ordinances, be sure to send us a copy of them, then we can make a special estimate of just what you need.

## Special Terms

If you wish to order a heating plant or an electric lighting plant in addition to the plumbing outfit, we will be glad to make terms that will meet your entire approval. Just let us know how much you will be able to pay a month and we will arrange the terms accordingly.



# Modern Bathroom Outfits



## THE BATHTUB

—Same as furnished with Perfection Bathroom Outfit described on page 12, complete with all trimmings to floor.

**LAVATORY** is 18 inches from front to back, 24 inches wide and has a 10-inch high back and deep apron. Made of cast iron with soap cup cast in top. Inside of bowl, top, back and outside of apron glazed with white porcelain enamel, 1¼-inch trap with outlet to wall, two compression cocks with china tops, marked "hot" and "cold," and two ⅜-inch bottle air chamber supply pipe to wall. All trimmings of brass, nicely nickel plated.

## Gem Bathroom Outfit

White vitreous china closet tank. Siphon jet noiseless closet bowl and large square lavatory are special features of this outfit.

## CLOSET

has siphon jet bowl and chinaware tank. Seat of well seasoned quarter sawed oak, highly polished, with nickel plated brass hinges.

China handle flush lever, nickel plated ⅜-inch supply pipe to floor.

Bathtub and lavatory shipped from **LAYTON PARK, WIS.** Shipping weight, about 410 pounds. Closet shipped from our **CHICAGO** store. Shipping weight, about 130 pounds.

## Special Combination Offer

This combination consists of bathtub, lavatory and closet, as above described, and kitchen outfit No. 1 on page 14, or No. 2, on page 15, with sufficient galvanized pipe and fittings to install in the average size six-room house, piping to run to the point where your water supply enters the building, also sufficient soil pipe to run from ground to roof, with calking lead and oakum for the joints.

**269A9281**—Gem Bathroom Outfit complete, together with kitchen outfit No. 1, shown on page 14.  
Price .....\$186.70

**269A9282**—Gem Bathroom Outfit complete, together with kitchen outfit No. 2, shown on page 15.  
Price .....\$190.00

**Make Your Own Terms. See Page 2.**

### Special Ordinances

In the above we have provided a good sanitary plumbing system, guaranteed to give satisfactory service, and suitable for the average two-story residence. Ordinances of various cities differ widely. Some require more and some less pipe and fittings. If you are required to follow special city ordinances, be sure to send us copies of them, then we can make a special estimate of just what you need.

### Special Terms

If you wish to order a heating plant or an electric lighting plant in addition to the plumbing outfit, we will be glad to make terms that will meet your entire approval. Just let us know how much you will be able to pay a month and we will arrange the terms accordingly.



# Modern Bathroom Outfits



## Perfection Bathroom Outfit

A very popular combination. Modern, of neat appearance and durable. Suitable for the finest residence. A good serviceable outfit at a moderate price. Why not enjoy this great comfort in your home now?

**BATHTUB** is 5 feet long, 30 inches wide over rim at top and 16½ inches deep, sufficient to prevent water from splashing over sides. Height from floor to top of tub, 22 inches. Made of cast iron, coated inside with white porcelain enamel, and has 3-inch roll rim. Standard Fuller pattern No. 4½ bath cock, 1½-inch connected waste and overflow and two ½-inch offset supply pipes to floor, all of brass, nickel plated and polished.

**LAVATORY** is 18 inches from front to back, 21 inches wide and has 8-inch high back and roll or turn-over rim 4 inches deep. Soap cup cast in top directly above overflow. 1¼-inch trap with outlet to wall, two

compression faucets with china tops, one marked "hot" the other "cold," and two ¾-inch supply pipes from cocks to wall. All trimmings of the

latest design, made of brass, nicely nickel plated.

**CLOSET** has siphon washdown pattern bowl of vitreous earthenware, polished grain sawed oak tank and seat. Tank lined with copper, holds 6½ gallons. China handle flush lever, ¾-inch supply pipe to floor, hinges for seat and screws and washers for fastening bowl to floor. All trimmings are nicely nickel plated.

Bathtub and lavatory shipped from **LAYTON PARK, WIS.** Shipping weight, about 390 pounds. Closet shipped from our **CHICAGO** store. Shipping weight, about 95 pounds.

## Special Combination Offer

This combination consists of bathtub, lavatory and closet as above described, and kitchen outfit No. 1 on page 14, or No. 2, on page 15, with sufficient galvanized pipe and fittings to install in the average size six-room house, piping to run to the point where your water supply enters the building, also sufficient soil pipe to run from ground to roof, with calking lead and oakum for the joints.

**269A9283**—Perfection Bathroom Outfit complete, together with kitchen outfit No. 1, shown on page 14.

Price .....\$172.00

**269A9284**—Perfection Bathroom Outfit complete, together with kitchen outfit No. 2, shown on page 15.

Price .....\$175.30

**Make Your Own Terms. See Page 2.**

### Special Ordinances

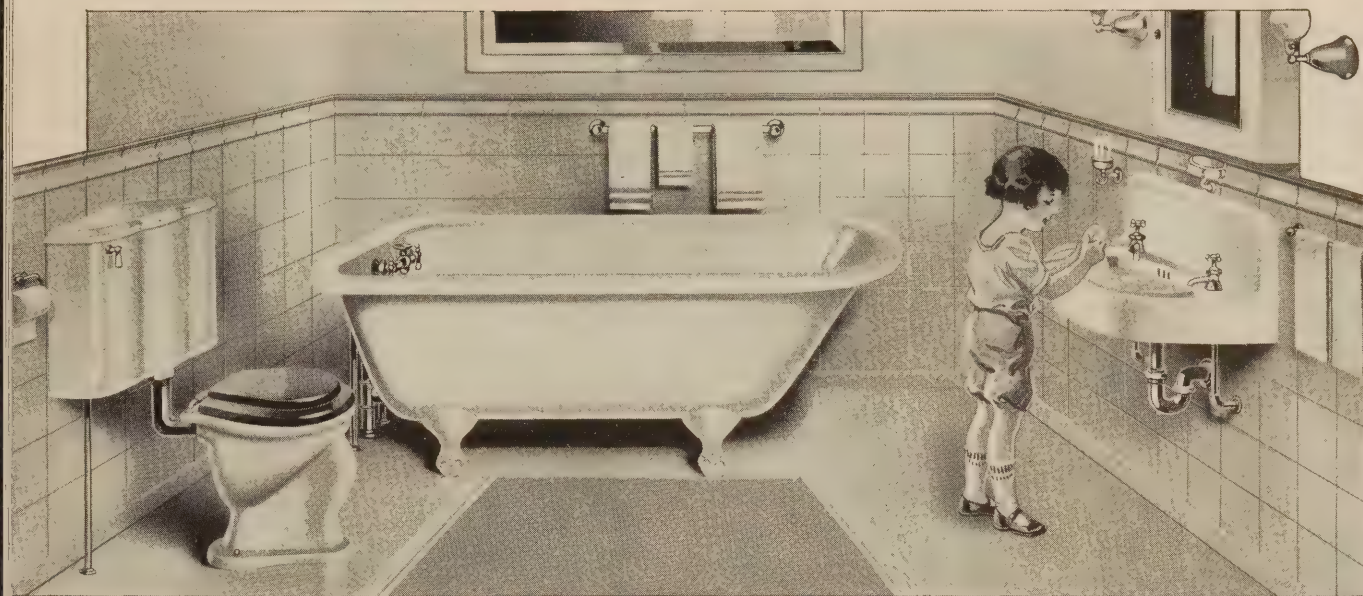
At price quoted above we have provided a good sanitary plumbing system, guaranteed to give satisfactory service, and suitable for the average two-story residence. Ordinances of various cities differ widely. Some require more and some less pipe and fittings. If you are required to follow special city ordinances, be sure to send us a copy of them, then we can make a special estimate of just what you need.

### Special Terms

If you wish to order a heating plant or an electric lighting plant in addition to the plumbing outfit, we will be glad to make terms that will meet your entire approval. Just let us know how much you will be able to pay a month and we will arrange the terms accordingly.



# Modern Bathroom Outfits



**BATHTUB**—Same as furnished with Perfection Bathroom Outfit described on page 12, complete with trimmings to floor.

**LAVATORY**—Same as furnished with Perfection Bathroom Outfit described on page 12, complete with trimmings to wall.

**CLOSET**—The closet combination is the special feature of this bathroom outfit. Has siphon washdown bowl of vitreous earthenware, polished quarter sawed oak seat with nickel plated brass hinges, and large

## New Home Bathroom Outfit

The handsome snow white vitreous china closet tank is the special feature of this outfit. Sanitary, attractive and durable.

capacity white china tank with china handle flush lever and nickel plated supply pipe to floor.

**CLOSET TANK**—White vitreous china, artistically designed

with curved or wave style front and cover to match, making a beautiful sanitary closet outfit that is easily kept clean and white, and one that will add greatly to the appearance of your bathroom. **Bathtub and lavatory shipped from LAYTON PARK, WIS. Closet from our CHICAGO store.** Shipping weight, 395 lbs.

## Special Combination Offer

This combination consists of bathtub, lavatory and closet as above described, and kitchen outfit No. 1, on page 14, or No. 2, on page 15, with sufficient galvanized pipe and fittings to install in the average size six-room house, piping to run to the point where your water supply enters the building, also sufficient soil pipe to run from ground to roof, with calking lead and oakum for the joints.

**269A9277**—New Home Bathroom Outfit complete, together with kitchen outfit No. 1, shown on page 14.

Price .....\$178.50

**269A9288**—New Home Bathroom Outfit complete, together with kitchen outfit No. 2, shown on page 15.

Price .....\$181.80

**Make Your Own Terms. See Page 2.**

### Special Ordinances

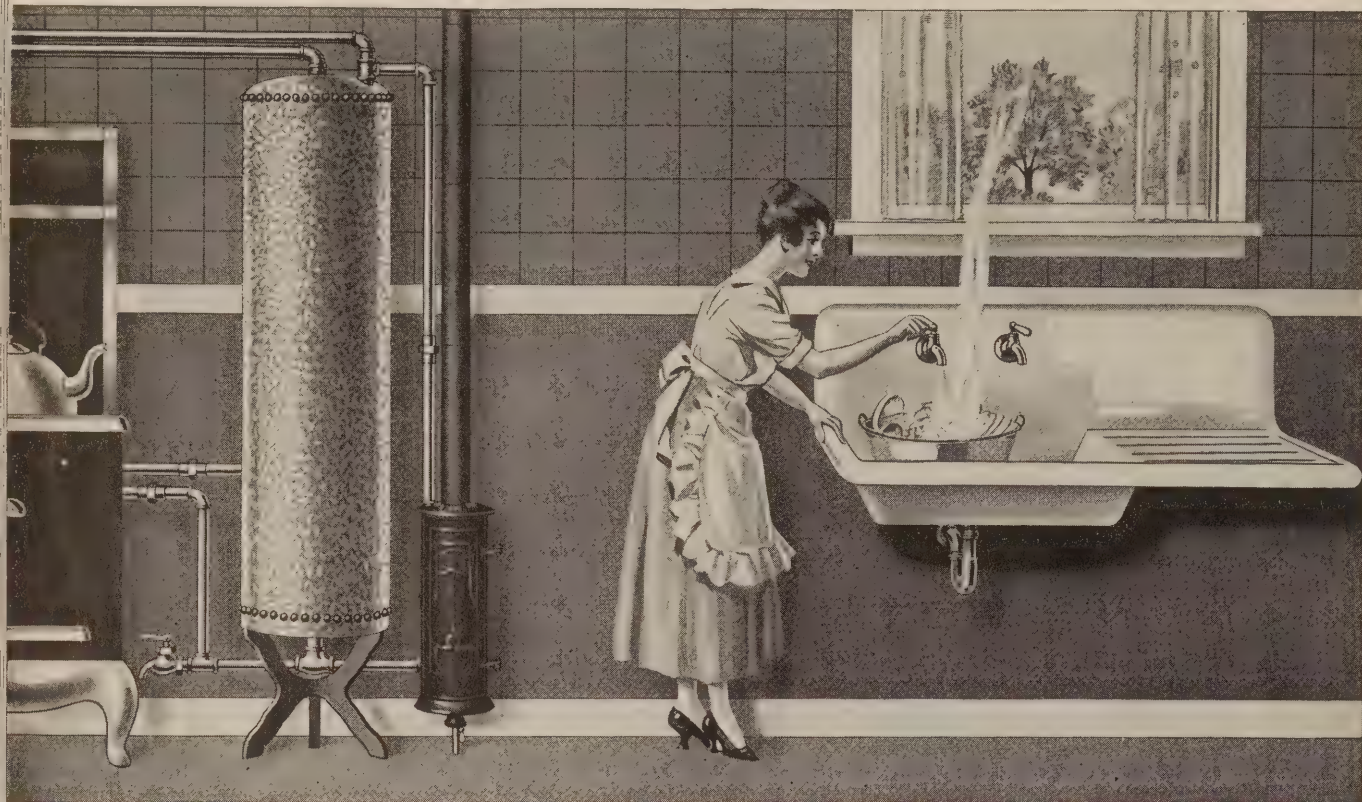
At price quoted above we provide a good sanitary plumbing system, guaranteed to give satisfactory service and suitable for the average two-story residence. Ordinances of various cities differ widely. Some require more and some less pipe and fittings. If you are required to follow special city ordinances, be sure to send us a copy. Then we can make a special estimate of just what you need.

### Special Terms

If you wish to order a heating plant or an electric lighting plant in addition to the plumbing outfit, we will be glad to make terms that will meet your entire approval. Just let us know how much you will be able to pay a month and we will arrange the terms accordingly.



# Sanitary Kitchen Plumbing Outfit No. 1



This sanitary plumbing outfit for the kitchen consists of a beautiful white enamel sink as shown, a forty-gallon range boiler, a water heater, together with all the necessary pipes and fittings to install these parts complete in every detail.

**THE SINK.** A handsome, serviceable sink that is suitable for most kitchens. The sink can be furnished with drain board on either the right or left side. (Be sure to state which you want when ordering). It is furnished complete with nickel plated trimmings, trap and waste pipe to wall. The sink is 48 inches long over all. The basin part proper is 20 inches wide and 26 inches long; the drain board is 20 inches wide and 22 inches long. The drain board is grooved and permits quick draining to the basin.

Here is a sink that is serviceable, neat in appearance and will save the housewife thousands of steps every year, because everything is handy and convenient for the many jobs she does every day. It is of greatest help in the daily work. Only the woman who has never had the opportunity of working in a kitchen equipped with a modern sink will really appreciate the savings and help this sink will be for her.

**THE RANGE BOILER.** Running hot water is just as easy to have as running water. And there is

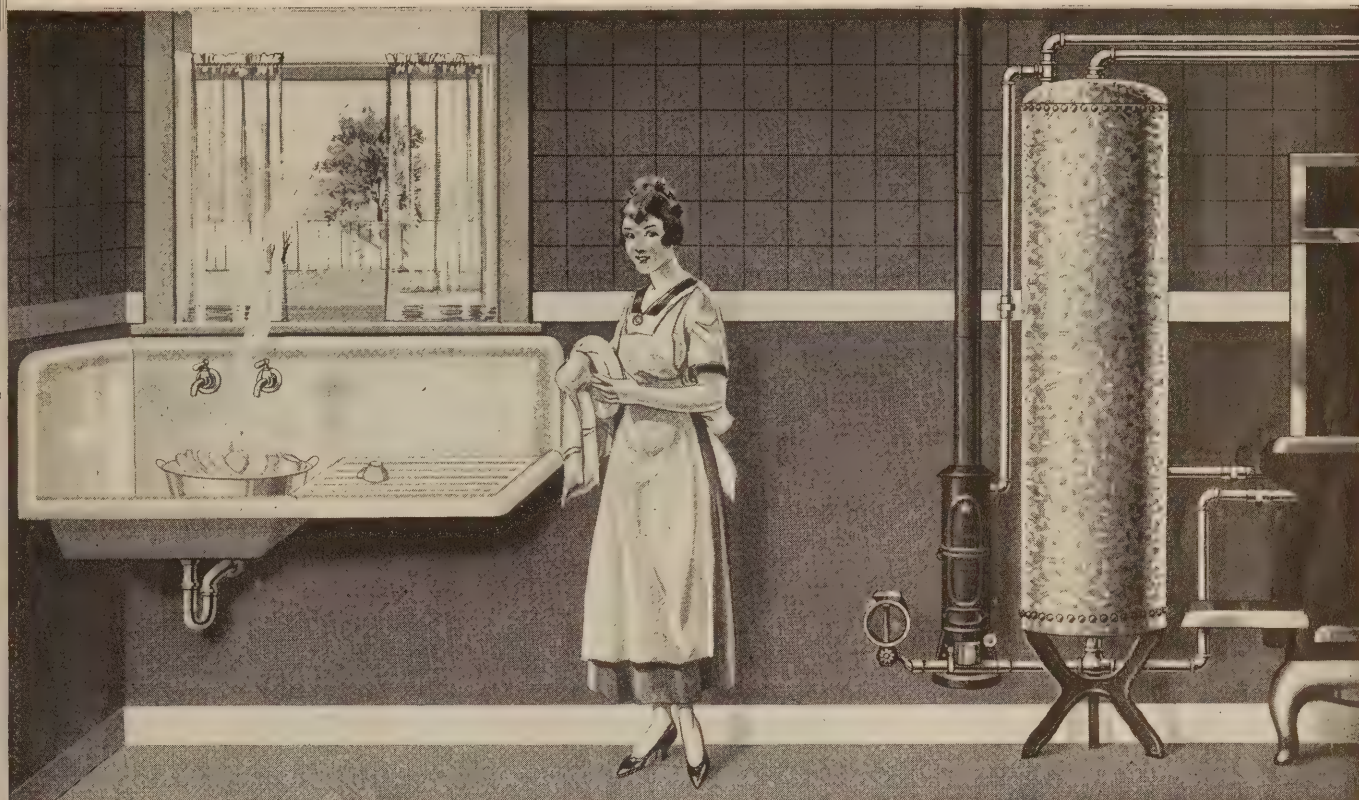
nothing that adds so many conveniences to the home as running water. For wash day, for scrubbing, for bathing—running hot water helps in many ways to lessen the labor of the woman.

If you have running cold water, all you need to get running hot water is to connect the range boiler to the water front of your coal range or to a coil in the furnace or to a gas water heater. The range boiler shown here is heavily galvanized inside and outside to protect it from rust. It is a 30-gallon capacity, the usual size for the average family. If a larger size is required, we will gladly quote you prices.

A gas water heater when connected to the range boiler will furnish an abundance of hot water for bath, kitchen and laundry. The gas heater shown in this illustration has 18 feet of copper tubing contained in a cast iron jacket; burner is cast iron with drilled outlets and fitted with gas valve and air mixer. This complete sanitary kitchen outfit includes sink and range boiler and all pipes and fittings for installation. The gas heater is sold complete with bathroom outfits shown on pages 10, 11, 12 and 13, where combination prices are given on easy terms. The price of the gas water heater is not included in these prices.



# Sanitary Kitchen Plumbing Outfit No. 2



This sanitary kitchen plumbing outfit consists of a beautiful white enamel sink, a 40-gallon range boiler, an instantaneous water heater, together with all the necessary pipes and fittings to install these parts complete in every detail.

**THE SINK.** The sink is furnished with either a left hand corner and a right hand drainboard, or with a right hand corner and a left hand drainboard. (Be sure to mention which you want.) It is furnished complete with nickel plated trimmings, trap and waste pipe to wall. The sink is 48 inches long over all. The basin part proper is 20 inches wide and 26 inches long. The drainboard is grooved as illustrated and permits quick draining to the basin.

One of the greatest conveniences for the kitchen is a one-piece sink. It is easy to keep clean, because the sink is made of cast iron in one piece and is then coated with a white porcelain enamel—a glasslike substance. The sink is free from cracks, crevices or sharp corners into which grease or dirt can lodge.

**THE RANGE BOILER.** Running hot water is easy to obtain if you have running cold water. It is only necessary to have a range boiler as shown, connected to the water front in the kitchen range, or to an instantaneous water heater operated by gas or gasoline, or to

a coil in your furnace. We illustrate the range boiler connected to an independent heater which is the best method. We illustrate the range boiler connected to a range; also to the independent heater.

The range boiler shown here is heavily galvanized inside and outside. All parts are heavily coated with zinc to protect it from rusting. The price on this outfit is based on using a range boiler of 30 gallons capacity, which is the size needed for the average family. If a different size is required, write us, stating your needs, and we will quote a special price.

**The Hercules Kerosene Water Heater** is an inexpensive means of supplying hot water in the country home having running water but no city gas. It has four copper heating coils, enclosed in a cast iron jacket. The reservoir holds one gallon of kerosene, and is fitted with a gauge showing the height of oil.

In this illustration, we show the range boiler connected to the coal range, also to an independent kerosene water heater, but the kerosene heater is not included in this special offer.

This outfit includes the sink and range boiler, all pipes and fittings for installation, and is sold complete with bathroom outfits shown on pages 12 and 13, where prices on the complete materials are quoted.



# Cesspools and Septic Tanks



Where there is no public sewer connection, we highly recommend a system like that illustrated above, which will take care of all the sewage from kitchen sinks, slop sinks, laundry tubs, floor drains, water closets, lavatories and bathtubs, collecting and preparing the waste for final disposal by running into field tile or distributing ditches, or a filter bed, or even into a running stream that is not used for drinking purposes. We furnish full description of how to construct cesspools and septic tanks, also how finally to dispose of the drainage. If you have no public sewer near you, by following our directions and suggestions with reference to the above installation you will be able to dispose of all the waste water in the most convenient and sanitary way.

We recommend emptying all the kitchen drainage from sinks, laundry tubs, etc., first into a cesspool which collects all the grease and then carrying the

water from which the grease has been removed from the cesspool into the septic tank, where, with the bathroom drainage, it is finally disposed of through the siphon in the second or siphon chamber of the septic tank, and from there conducted wherever it is to be finally disposed of. The reason for having both a cesspool and a septic tank is that the grease from the kitchen drainage greatly hinders if it does not practically prevent the activity of the bacteria which help clear up the bathroom sewage in the septic tank, while if the grease is separated from the kitchen sewage such action will go forward without hindrance.

The cesspool (catch basin) shown in the illustration is a watertight cesspool, built of concrete. Tight cesspools can be built of concrete, brick or stone. There's another variety, called a "leaching" or "seeping" cesspool or catch basin, which is built of stone or brick, laid loosely together without mortar. Leaching cesspools allow the water to seep through the sides while retaining the solids, and will carry off the waste water without pipes if the ground is absorbent. We do not recommend a leaching cesspool, however, for the reason that there is always a chance of contamination and poisoning of drinking water if the well or spring is not far from it.

A leaching cesspool can only be used when the soil is sandy or otherwise porous. It should never be placed nearer than 100 or 150 feet from the well or other source of water supply, and then only when the natural drainage is **away** from the water supply. It is built of loose brick or stone without the use of cement or mortar, about 4 feet wide by 6 feet deep. Figure 11 gives an idea of how to build it. The liquid seeps out into the surrounding soil, while the solid

matter remains in the cesspool until removed.

Tight cesspools (see Figure 12) are built of brick, stone or concrete, and to be watertight should be cemented inside with a mixture of one part Portland cement to two parts of fine sand. The inlet and outlet pipes should be arranged somewhat as in Figure 12, the inlet running about a foot below the surface, while the outlet extends about half way down. The cesspool should be 12 to 15 feet from the house, and so placed that there will be no possibility of any leakage getting into your water supply. It should be at least 4 feet wide by 6 feet deep.

The waste water from the tight cesspool is conducted through glazed tile with cemented joints or through cast iron pipe to a flowing stream or other suitable outlet, or is disposed of by surface or subsurface drainage.

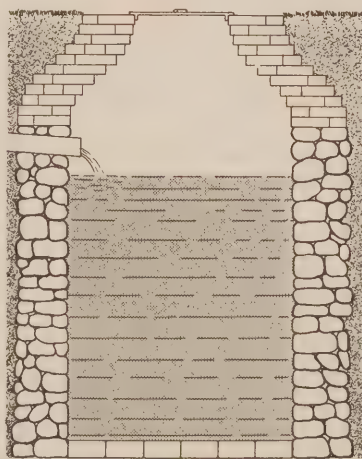


Figure 11. Leaching cesspool.

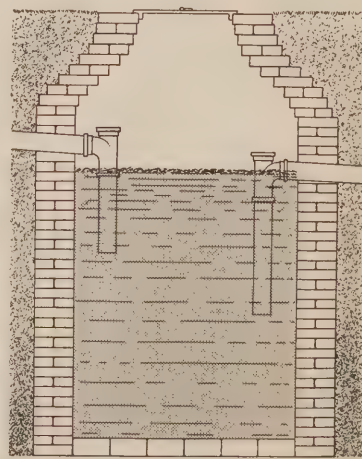


Figure 12. Tight cesspool.



# Septic Tanks

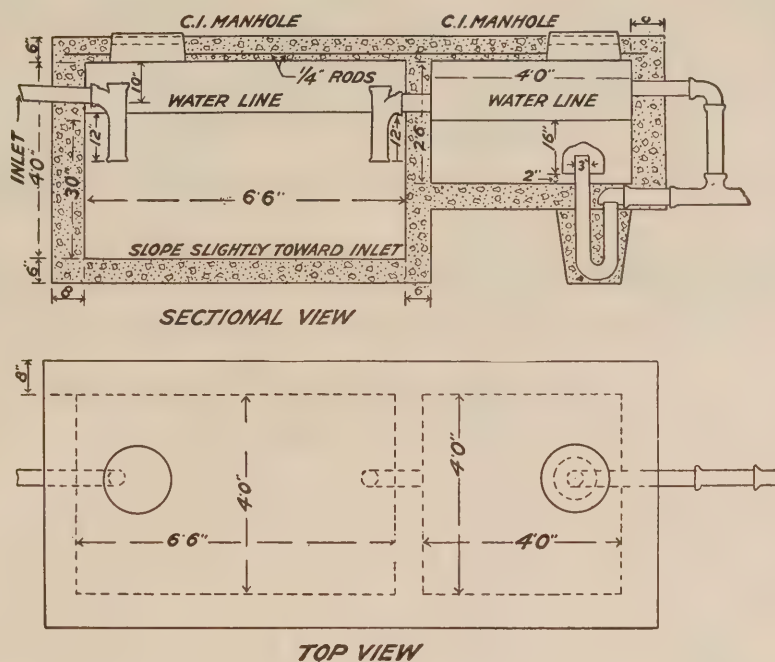


Figure 13. Side view and top view of septic tank.

A septic tank is nothing but a concrete tank divided into two compartments, with a connection between them (see Figure 13). The sewage from the house runs into the first compartment. When enough has collected to rise to the outlet to the second compartment the liquid runs over into it, and when it rises to a certain height in the second compartment it is automatically siphoned out and is finally purified by running it through a filter bed or distributing it in the ground.

The great difference between this tank and the ordinary cesspool is the natural process which takes place in the first compartment, due to the action of millions of bacteria, which live on filth and thrive in the dark. In a cesspool the liquid runs off, leaving the solid sewage, which decomposes and gives off not only disagreeable odors, but millions of disease producing germs. In a septic tank the size of the first compartment is figured to hold the sewage that would naturally collect in eighteen to twenty-four hours, before it passes on into the second compartment. In the first or settling compartment a thick scum forms on top of the sewage, which keeps out the light and air. This is favorable to the growth and action of certain bacteria which cannot live in the air or light, and these turn the greater part

of the sewage into a liquid that is about 40 per cent pure.

The first compartment of the septic tank should have a closed manhole cover. The pipe carrying the sewage from the house into it should extend down toward the bottom, so as not to disturb the scum at the top. In the eighteen to twenty-four hours that the sewage should remain in the settling compartment, it is nearly all turned into liquid form, and then runs over into the second or siphon compartment, which should have a manhole cover with holes to admit air.

The object of the siphon in the second compartment is to empty it only from time to time whenever the liquid rises to a certain height above the siphon. This is to give the soil or filter bed, where the liquid is finally disposed of, time between emptyings to dry and air out. The time between discharges depends on the size of the siphon compartment, and should be regulated by the kind of soil or filter into which the liquid is run. If the soil is a heavy loam with poor natural drainage, there should be more time between discharges; therefore the second compartment should be larger. If the soil is very porous, or there is a decided fall to the land and the natural drainage is good, the discharge can be more fre-

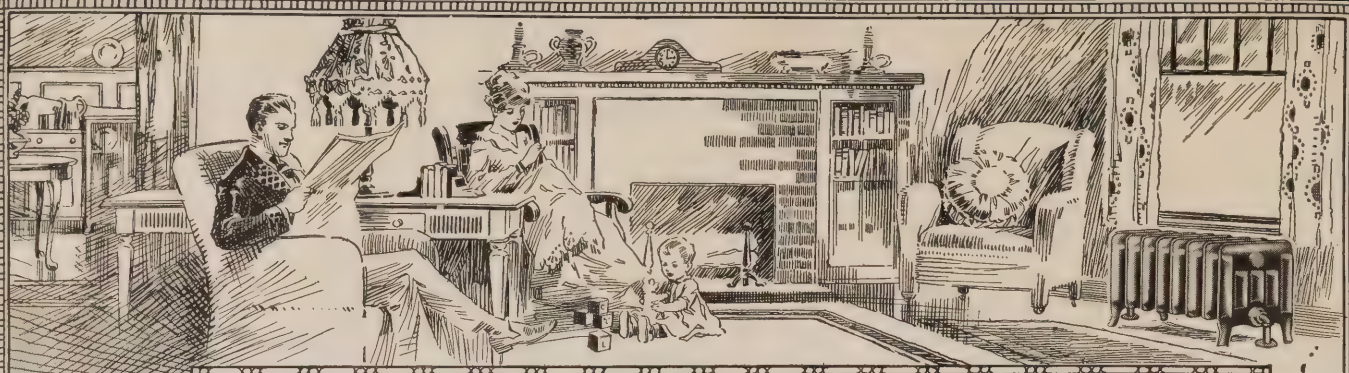
quent, and so the siphon compartment can be smaller. The soil or filter bed must not become waterlogged, otherwise the waste accumulates faster than the ground can dispose of it and ferments, giving off bad odors.

Figure 13 shows the general shape and proportions of the septic tank. The exact location of the siphon need not be followed. It could be in the corner as well as in the middle of the end. Figure 13 shows a cross section of the tank, and illustrates the positions of the cast iron pipe connections.

## Location of Septic Tank

The septic tank, although practically airtight and watertight, should be located as far from the house and the source of water supply as conditions will permit. This reduces the chances of any sewage getting into the drinking water, and prevents the nuisance of bad odors. Select a place where the ground is sufficiently level to provide for the overflow drainage described later. The fall from the house should not be too steep either. At least the last 100 feet of sewer pipe from the house should not slope much more than  $\frac{1}{10}$  of an inch to the foot.





# Hercules Heating Systems

Hercules Boilers, Radiators and Warm Air Furnaces

## *The Finishing Touch of Comfort to the Home*

**O**UR EXPERIENCE in the development, perfecting and distribution of our Hercules Steam, Hot Water and Warm Air Heating Systems extends over a period of almost twenty years.

From a small beginning, our heating department has shown steady growth year after year until our annual sales of Hercules Heating Systems now figure well up into the thousands.

We have proved to many thousands of our customers

That Hercules Heating Systems are easy to install.

That they fulfill every claim we make for them.

That the broad guarantee under which they are sold and our liberal merchandising policy are a reliable assurance of satisfaction.

Among our millions of customers we know there are still countless thousands who are depending upon old time heating methods and are not enjoying the comfort and convenience of a modern heating system in their home.

We are confident that if these thousands of customers fully realized what it means to the comfort, health and happiness of the entire family to have one of our modern Hercules Heating Systems in the home, how easy to install, how moderate our price, and how liberal our terms, there are few indeed who would not be now enjoying this real home comfort.





# Modern Heating Systems

With every one of our heating systems we give a printed guarantee as illustrated opposite page 1 of our Special Heating Catalog. If one of our heating plants, when installed according to the plans we furnish, does not give the thorough satisfaction you expect and ought to have, we guarantee to take it back at our expense any time within two years, and we will then return the full price and the freight charges you paid. Surely this is proof of the high quality of our plants. The guarantee is your assurance of a satisfactory heating system.

## How Low Prices Can Be Combined With High Quality

Ordinarily the materials that go to make up a heating plant have to pass through a number of hands before they reach you. Each middleman adds, and is entitled to, his profit. Our method of selling direct from the factory, without the great expense of the usual sales force, and with a reasonable profit added, explains the unusually low prices we quote you on high grade material. Our plants cost just as much to manufacture, and it is the original cost that counts.

## Let Us Estimate for You

We will gladly give you, free of charge, an estimate or bid on a complete Hercules Heating Plant of the kind you wish if you will merely fill out the estimate blank enclosed with this book. All we need is a few rough sketches of the different floors of your building, together with the measurements. Let us know what sort of heating you prefer, whether hot water, steam or warm air. If you have not already a preference, we explain on the following pages the differences and merits of the four principal systems. After reading these pages it will be easy for you to make your own selection.

The estimate we send you will be for a plant of the proper size, including all the material necessary for erecting it complete, a plant that will heat your building satisfactorily throughout, in all kinds of weather, with the least expense of fuel.

In asking for our estimate you do not put yourself under the slightest obligation to buy from us. We are glad to give you our figure. Let us tell you what it will be.

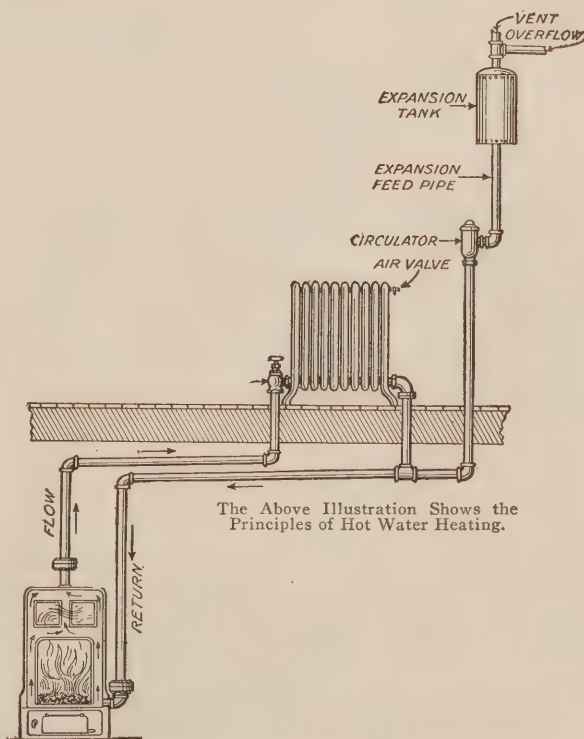
## Four Principal Modern Heating Systems

Steam, Hot Water, the Warm Air Pipe Furnace and the Warm Air Pipeless Furnace

### The Advantages of Hot Water and Steam Heating

Hercules Hot Water and Steam Plants possess in common a number of very desirable features. Both make use of water as the carrier of heat. Water, of course, retains heat much better than air—does not lose it as readily when carried a considerable distance. Hot water or steam plants are, therefore, better than warm air furnaces for large houses and other buildings of considerable size. In both systems the heat is carried in small, hardly noticeable pipes, involving less disturbance to put in an old building than the installation of a warm air system. From the very fact that water retains heat so well, it is unnecessary to pay as close attention to the boiler as with a warm air furnace, where the air is heated directly. And it takes less fuel to keep up the heat.

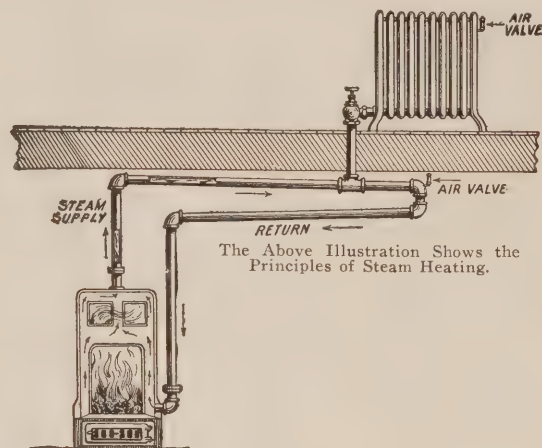
The illustration to the right will give you a clear idea of just how a hot water plant operates. The water in the boiler, heated by the fire, rises to the radiator, where it gives up its heat and then returns through the return pipe to the boiler again. The reason for this circulation of the water





is that hot water is lighter than cold water. The hot water in the boiler is forced out and upward by the cooler, heavier water coming down from above. The water also expands when it is heated, which explains the necessity of the expansion tank to take care of the increased volume.

The rate at which the water travels depends upon the difference in temperature between the water going to the radiator and that coming back from it. It has been found that when water is placed under



pressure it can be raised to a higher temperature before it will boil. As remarked, the higher the temperature, the faster the circulation and, therefore, the hotter the radiators can be kept. Our Hercules Improved Circulator, which we include in our estimate, unless asked to omit, gives the necessary extra pressure, increasing the rate of circulation to a degree which gives our Hercules Hot Water Plants practically the combined advantages of both a hot water and steam heating system.

The operation of a steam heating system is shown in the illustration above. The steam from the boiling water in the boiler rises through the pipe at the top and travels to the radiators. There, on giving up its heat, it is condensed to water again and flows back through the return pipe to the lower part of the boiler. Low pressure steam systems are extensively used for large buildings, such as apartment houses, schools, etc.

Hot water heating is recommended for practically every kind and size of building where a steady, easily controlled heat is required day after day. It is superior to any other system in range of control, since the heat is easily regulated from merely warm to extremely hot, as wished. Steam has the advantage that quicker, more intense heat can be obtained, and the heat can be carried longer distances or to greater heights. For instance, steam heat is almost universally used in the tall city build-

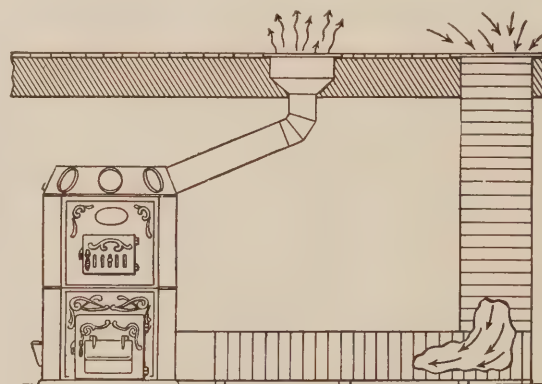
ings and wherever the heat is carried from one building to another. Hot water is not heated as high as steam, so does not require quite as much fuel, although the difference is small. A hot water plant costs slightly more than a steam system because there is more piping, as you will notice by comparing the illustration of hot water heating with that of steam heating.

There is little to choose between a hot water and a steam system, although for residences we always recommend a hot water system, since it is simpler to handle, more easily regulated and in general requires less fuel.

## The Advantages of Warm Air Heating

The principles and action of warm air heating are shown thoroughly by the illustration below. Air is heated in the upper part of the furnace and rises through the pipes to the rooms above. It continues to rise while hot, and then as it cools begins to drop again, since cold air is heavier than warm air. In our warm air systems provision is made to lead the cooled air through a return air register and passage back to the furnace again, where it is reheated and again rises.

Our Hercules Warm Air Systems have several advantages over other methods. To heat every part of the house by a warm air system it is absolutely necessary to have good air circulation. This is easy to understand when you consider what happens when you blow air into a bag. After you have blown in a certain amount of air it is impossible to get any



more in. It is the same in filling a house with warm air. If no provision is made to keep the air moving by returning it to the furnace after cooling, the system ceases to act efficiently after the heat has been on for awhile, and the results are unsatisfactory. A second very important advantage of the circulation afforded by our system is its healthfulness. Scientists have proved that if the air in a building is kept in motion it will continue fit for breathing purposes much longer than where there is no circula-



tion, even if no fresh air is permitted to enter. As a matter of fact, plenty of fresh air enters through the doors and windows of any house.

Warm air heating systems are particularly recommended for churches, halls and other buildings of only one or two floors, where it is usually necessary to heat up quickly and thoroughly for a few hours and then the fire is allowed to go out. For private homes, where the furnace can be centrally located and where it is not necessary to run very long pipes; where, furthermore, there are only two or three floors to heat, a warm air plant gives excellent results when installed according to the plans we will furnish. It is only necessary to remember that air quickly loses its heat if it must be carried too far in the pipes before reaching the different rooms. A warm air heating system is not recommended to heat rooms located at a horizontal distance of more than 30 feet from the furnace.

Warm air plants cost less than hot water or steam plants. The registers take up less space in the rooms than the radiators of the other plants. The continuous circulation of the air in the rooms and the fact that the air is constantly being mixed with fresh air coming in through the doors and windows is an advantage that cannot be overlooked.

## Our Pipeless Furnaces

Our Pipeless Furnaces are the simplest of all heating systems and are the least expensive. We sell three different kinds of Pipeless Furnaces—our Hercules Pipeless, our Volcano Pipeless and our Hummer Pipeless. These Furnaces are illustrated and described on pages 26 and 27. The design and construction of each are fully explained, so that you can easily select the furnace which is best suited to your requirements.

Our Hercules Pipeless Furnace is the most efficient of the three, as the cold air is taken from the living rooms and is brought down in an outer space which surrounds the entire furnace, forming an insulating cloak around the furnace through which it is almost impossible for any heat to escape. The heat must pass to your living rooms upstairs, and none of it is wasted in the basement.

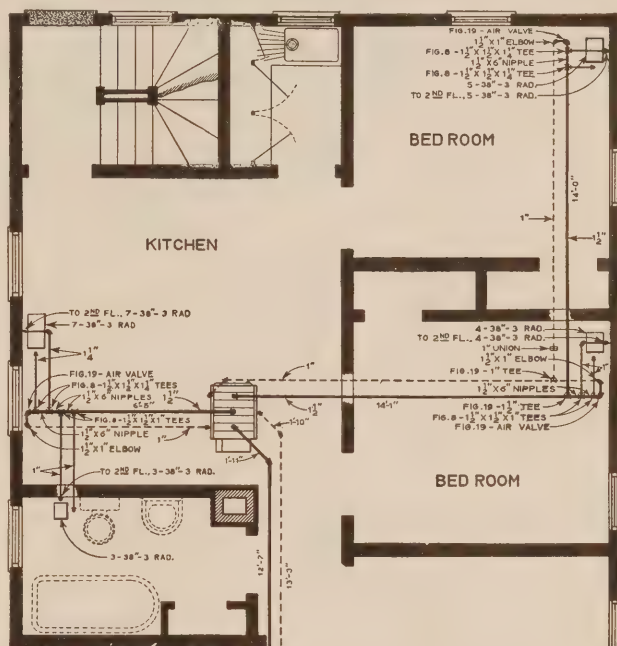
Our Volcano Pipeless Furnace is built exactly the same as our Hercules, except that it has no outer cold air return chamber. In this furnace the cold air is taken from the basement.

Our Hummer Pipeless Furnace also takes the cold air from the basement and is especially adapted for burning wood. All of these pipeless furnaces are guaranteed to do all we claim for them and to give satisfactory service in every respect.

In our heating department we employ expert heating engineers who have had years of experience in estimating and designing heating plants of all kinds for every description of building. Our estimate to you is made out by experts with the sole idea of giving you perfect satisfaction in the heating of your

building with a plant that will meet every demand made upon it by the very coldest weather. We keep a copy of the estimate with your letter.

If installed according to our plans, drawn specially for your building, we guarantee satisfactory results with any of the four styles. There are certain cases in which it would be impossible to guarantee satisfaction with a warm air plant. In case you ask us for an estimate on a warm air system for a building in which we know such a system would not give satisfactory results, we promise to give you our impartial advice as to the best system to use.



Part of the Plans Furnished With a Hot Water Heating Plant.  
(Very Much Reduced in Size.)

## Our Care in Filling Your Order

When your order is received it is referred to one of our heating experts, who then makes a working drawing or layout of the plant, under the supervision of the manager, planning the arrangements in a way that will insure the best results with the use of the least amount of fuel. For instance, in hot water or steam systems, if it is found that a pipe must be run for a considerable distance from the main line, this pipe is increased in size to insure perfect circulation. The expert sees to it also that no registers for warm air heating are placed where the pipe will be exposed to the cold before reaching the proper room.

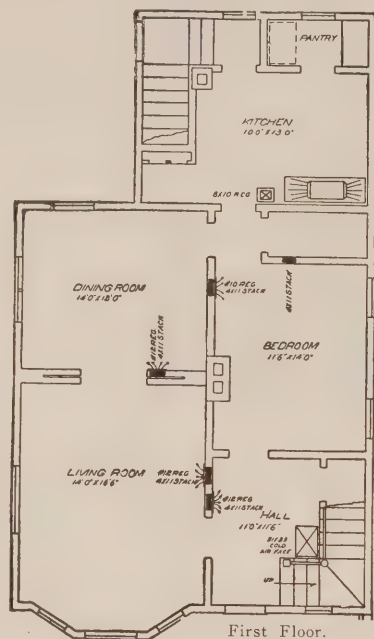
After the working plans have been carefully laid out and approved by the manager, a list of all the items necessary for erecting the plant is made in three copies. The original copy is sent to you, the second copy is used for filling the order and the third copy is kept by us for future reference. On a pipe order blank each piece of pipe is set down, with size and length. From this the pipe is carefully cut in the exact lengths necessary, and in the case of steam



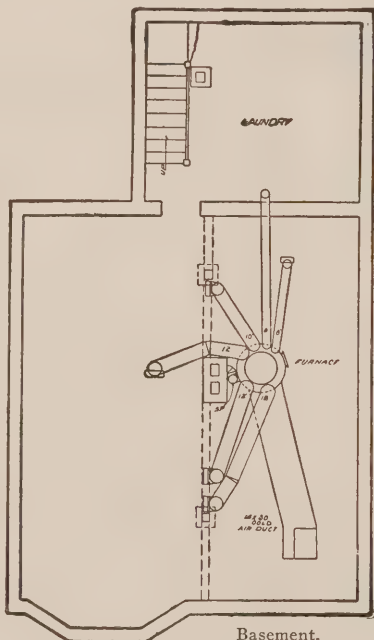
and hot water pipe, it is also carefully threaded and reamed in our pipe shop.

After all the materials necessary for your plant have been gathered together they are carefully rechecked and inspected before being packed, to make doubly sure your Hercules plant will not only be

We always arrange for the easiest and best installation. Although we will, if possible, locate boilers or furnaces, radiators or registers where our customers would like to place them, we are careful to plan for efficiency first of all. If you follow our plans we guarantee you the satisfaction you look for.



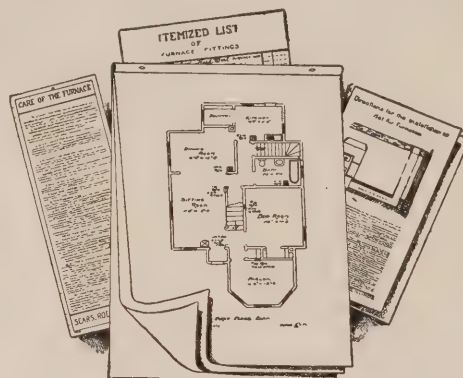
First Floor.



Basement.

Two of the Working Plans Furnished With a Warm Air Heating Plant.  
(Very Much Reduced in Size.)

complete but will also prove satisfactory in every sense of the word. With your order we send you the complete working plans for installing the plant in your particular building, as well as a booklet of complete directions for every operation. To bring about the very best results our working plans should be followed precisely. Our heating experts have had wide experience and know their business thoroughly.



Sent With Your Order.

## You Can Easily Install Your Own Heating System

The great majority of our customers have installed their plants themselves, or with the aid of some handy man only. You will have no trouble in installing your Hercules plant so that it will work perfectly if you follow our drawings and instructions carefully. Thousands have done it, even though they have never done that sort of work before. If, however, you wish to have the work done, the cost will be a small item. For hot water and steam plants the average charge is from \$7.00 to \$9.00 per radiator for labor covering the installation of the entire plant. For instance, to install a plant with eight radiators would cost from \$56.00 to \$72.00, depending on the location. For a warm air plant the usual charge is from \$30.00 to \$40.00.

Our experts are at your service, and free of charge, to plan and estimate for you, and to help you in ordering the proper material to give the best results. You are aiming to have modern heating in your home at some time. Why not begin now to plan the system?

As a matter of fact, you cannot do better than to buy at an early date. Certainly the cost is reasonable enough if you buy your plant from us at our low prices. We advise you to take advantage of these prices and get your heating plant installed so you will be able to enjoy the convenience and advantages it will give you.

## A Suggestion

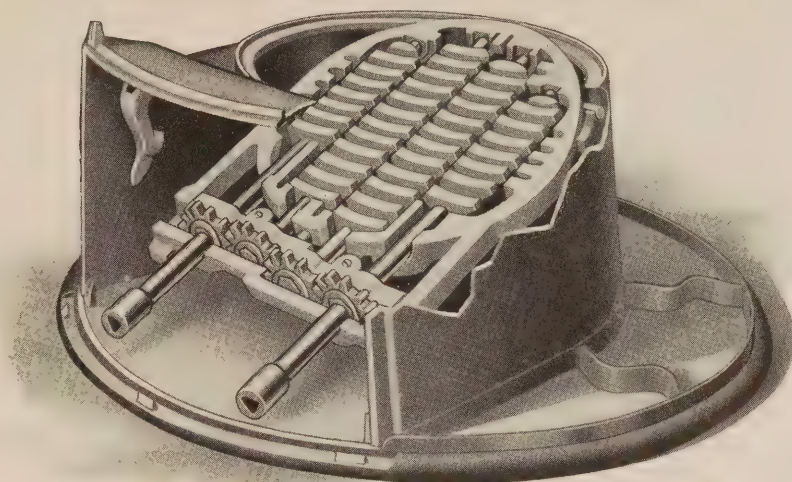
Fill out the enclosed information blank at all events and get our estimate. Then you can do your figuring after our estimate arrives. When you see our reasonable figure for the complete plant and begin to think of the comfort it will bring you for years and years to come, we are confident you will not want to be without modern heat any longer.

Follow the footsteps of thousands of pleased customers who would not sell their Hercules Heating Plants at any price if they could not get another.



# Hercules Warm Air Furnaces

The High Grade Construction of Our Hercules Warm Air Furnaces



View showing our One-Piece Base Plate, Ash Pit and Grate Bars used on all our warm air furnaces, both pipeless and regular. Any one grate bar can be removed without disturbing the rest.

All of our warm air furnaces, pipeless included, are made in one of the most up to date foundries in Ohio, under the direct supervision of one of the most expert furnace manufacturers in the United States. Every feature and part of these furnaces has been worked out after many years of experience in the furnace business, and while we expect to continue to improve our furnaces as time goes on, we have at the present time a most efficient line of furnaces.

## Great Care Used in Making

Our furnace castings are all made from fine grained gray cast iron. The patterns from which the various castings are made are perfect, insuring parts that are uniform and that will fit properly together. Every furnace is set up complete on the floor of the mounting room, the doors or other parts carefully ground and fitted, and the pieces all marked with the same serial number. After being carefully inspected for proper fitting of parts, etc., each furnace is taken apart and the small parts carefully packed together to insure safe travel in shipping. The serial number painted on the castings by the mounter makes it easy for the shipping department to prevent various orders becoming mixed, and it also helps the freight handlers on the railroad, and even the man setting up the furnace has an assurance in these numbers that he is putting together the identical same castings that were given the final approval of the inspector at the foundry.

## Gastight Joints

The illustration below shows a cut away view of the construction of the all-cast radiators used on our Hercules Volcano Furnaces. The deep tongue and groove joint is carefully fitted and packed with asbestos cement before the parts are bolted together. This makes a thoroughly reliable gastight joint, and the radiator, when complete, is considered better than a one-piece casting, as it allows for expansion and prevents the radiator from cracking when unevenly heated.

The radiator on the Hummer Furnace is also gastight. The steel drum and the cast iron top and bottom are bolted tightly together after the joint has been packed with asbestos fiber and cement.

## Removable Triangular Grate Bars

Each furnace has four bars of the latest improved triangular revolving type. These bars are so hung in the grate frame that any one particular bar can be removed in two minutes' time. The triangular bar permits the using of a different grate surface each day and in this way the life of the grate is greatly prolonged. For each surface exposed to the fire there are two cooling surfaces, making the burning out of the grates extremely difficult. The only possible way to warp or melt the bars is by allowing the ashes to accumulate under them and shut off the flow of air about them. Our ash pit is purposely constructed wide and high, so as to have a large ash capacity. One of the main features of the triangular bars is the ease with which clinkers and ashes are removed from the fire pot. The revolution of the bars simply grinds the clinkers and ashes into small particles and forces them down into the ash pit.

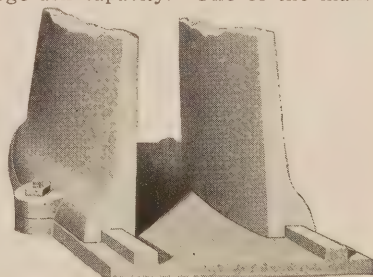
## Large, Heavy Cast Iron Fire Pots

Our fire pots are all made very heavy and are designed especially to withstand hard service. The fire pots are provided with deep cup joints, which, when filled with asbestos cement, are absolutely gastight. All fire pots are made in two sections and are corrugated to add to the strength and heating surface.



Radiator for Hercules Volcano Furnace. (Page 25.)

Cut away view showing fire travel. Note the long circular passage in the Hercules Volcano (page 25), which is designed for burning hard coal, soft coal, wood or coke.



Cut away view showing Gastight Joint used in the radiator of our Hercules Volcano Furnace (page 25).

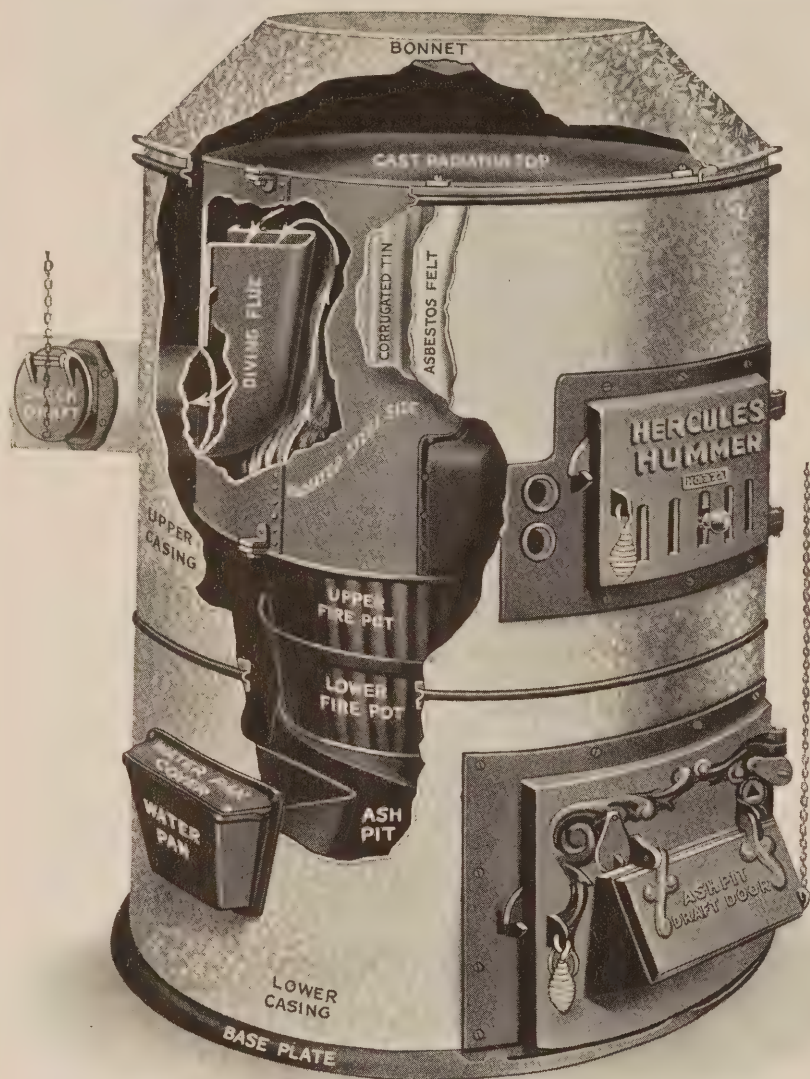


# Hercules Hummer Warm Air Furnace

For Soft Coal or Wood

**MAKE YOUR OWN  
TERMS**

See Page 2.



This furnace has been built especially to meet the demand of those who must have a large feed door to take big chunks of wood or coal. The fire pot is made correspondingly large and roomy and a very heavy body of fire can be carried.

This type of construction is not quite so good as our Hercules Volcano shown on page 25, but for the purpose for which it is intended it makes a very good furnace.

This furnace is generally used for burning block wood or soft coal, but it will also burn cobs, slack, stumps or brush. If wood is to be used alone an additional iron disc grate must be used to cut down the amount of air openings and prevent the fuel from burning too freely. This wood burning grate costs \$2.10 extra.

## Detailed Description

**Base Plate**—This furnace has a solid one-piece cast iron base plate, consisting of the ash pit bottom and the outer base ring connected by five extra heavy cast iron arms.

**Ash Pit**—Unusually deep and roomy, with plenty of space for ashes without danger of burning out the grates.

**Grates**—Heavy triangular revolving bar type. This type of grate is by far the most convenient and efficient. Grates are operated by means of a shaker handle working the two outer bars, which are connected by cogs to the two center bars. A turn or two of the shaker handle cleans the entire grate surface of ashes. When wood alone is used for fuel a wood burning grate must be used, as explained above.

**Fire Pot**—Cast in two heavy sections, the middle joint allowing for expansion and contraction. Extra deep and wide cup joints prevent gas from escaping. Entire fire pot is corrugated, increasing the radiating surface to almost double.

**Radiator**—Made of cold rolled steel plate, riveted like a boiler, with cast iron top and cast lower ring. The steel sides are firmly bolted to the cast top and bottom, making a thoroughly gastight joint. A cast iron diving flue forces the flames and smoke to go clear to the top of the radiator before they can enter the smokepipe, thus permitting a very large part of the heat to be saved that would otherwise go up the chimney. The diving flue is hung on lugs and is easily replaced when burned out.

**Casings**—Made of 26-gauge bright galvanized iron. Upper section of side casing is lined with a thickness of asbestos felt, with an inner lining of corrugated bright tin plate. This lining prevents loss of heat by radiation in the basement. The bright tin lining acts as a reflector, throwing the heat back and warming the air as it passes through the casing. The lower section of the casing does not need to be lined, as that is where the cool air comes in.

**Doors**—In this furnace it is possible to have an extra large fire door. This makes the Hummer Furnace especially suitable for burning wood, as large chunks can be put into the fire pot. The ash pit door is also large, making it easy to clean out the ashes.

**Water Pan**—A large cast iron water pan, which is kept filled with water to moisten the air and keep it wholesome.

**Accessories**—With every furnace we supply an oxidized copper plated damper regulator, to be screwed to the base-board in the living room, with chains and pulleys for connecting it to the check and draft dampers; plenty of asbestos cement for the joints; shaker handle, poker and bolts for fastening the different parts together.

Hercules Hummer Warm Air Furnace for Soft Coal or Wood.

## Prices on Furnaces

Shipped from foundry in OHIO. When ordered with fittings and registers they are all sent in one shipment from the same factory.

	269A2175	269A2176	269A2177
Catalog number.....	320	322	324
Furnace number.....	34	38	42
Diameter of casing, inches.....	20	22	24
Diameter of fire pot, inches.....	10x14	10x14	12x15
Size of feed door opening, inches.....	8	8	8
Diameter of smoke pipe connection, inches.....	29	29	29
Height of radiator, inches.....	27	29	33
Diameter of radiator, inches.....	56	59	62
Height with casing, inches.....	600	750	875
Shipping weight, including casing, about, pounds.....	8,000	15,000	21,000
Heating capacity, cubic feet.....	\$53.55	\$64.78	\$ 75.60
Price with casing, as illustrated.....	43.00	86.10	123.74
The approximate cost of registers, pipe and fittings for a 4-room house is.....			
The approximate cost of registers, pipe and fittings for a 6-room house is.....			
The approximate cost of registers, pipe and fittings for a 9-room house is.....			

Our Positive Water Coil to fit any of these furnaces, \$2.36 extra. Wood Burning Grate, \$2.10 extra.

Any of these furnaces equipped with gas fire pot in place of regular upper fire pot at a slight extra charge.

If interested in an extra large wood burning furnace for schoolhouses, churches, store buildings or halls, write for prices. We can furnish a furnace of this description with a fire pot 30 inches in diameter, that will take care of very large buildings. It is not the same construction as our Hercules Hummer Furnace, but is fully guaranteed and will handle the same kinds of fuel.

**Be sure to fill out information blank carefully so that we can be sure to send proper piping and registers.**



# Hercules Volcano Warm Air Furnace

For Hard and Soft Coal,  
Coke and Wood.

**MAKE YOUR OWN  
TERMS**

See Page 2

This all cast iron radiator type of furnace is considered the most satisfactory for all purposes. It is very simple in construction, is made strong throughout and will burn any kind of fuel—soft coal, hard coal, coke or wood. It is very economical in the consumption of fuel, has an unusually large amount of radiating surface and with good care ought to last a lifetime. The parts are all carefully made and fitted at the factory, so they will go together without any trouble.

## Detailed Description

**Base Plate**—This furnace has a solid one-piece cast iron base plate, consisting of the ash pit bottom and the outer base ring, connected by five extra heavy cast iron arms.

**Ash Pit**—Unusually deep and roomy, with plenty of space for accumulation of ashes without danger of burning out the grates.

**Grates**—Heavy triangular revolving bar type. This style of grate is by far the most convenient and efficient. Operated by means of a shaker handle working the two outer bars, which are connected by cogs to the center bar. A turn or two of the shaker handle grinds out the ashes and clinkers from the grate surface.

**Fire Pot**—Cast in two sections, the middle joint allowing for expansion and contraction. Extra deep and wide cup joints prevent gas from escaping. Entire fire pot is heavily corrugated, increasing the radiating surface to almost double.

**Feed Section**—Made extra strong and fully corrugated to increase the radiating surface.

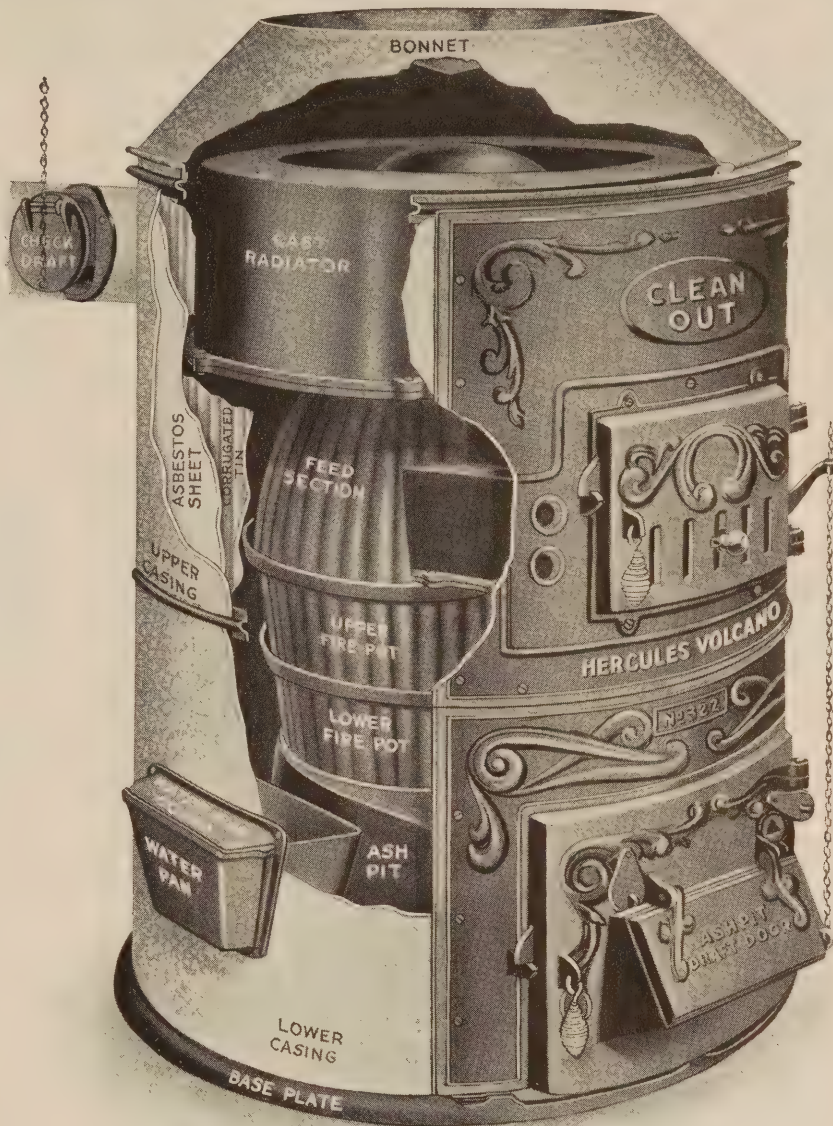
**Radiator**—All cast iron. Made in two pieces. The upper and lower parts are fitted together with a tongue and groove joint, well bolted and packed with asbestos, making a thoroughly sealed gas tight connection. Fire and smoke travel around both sides of the radiator before going out the smoke pipe.

**Casing**—Made of 26-gauge bright galvanized iron. Upper section of side casing is lined with a thickness of asbestos felt, with an inner lining of corrugated bright tin plate. This lining prevents loss of heat by radiation in the basement. The bright tin lining acts as a reflector, throwing the heat back and warming the air as it passes through the casing. The lower section of the casing does not need to be lined, as that is where the cool air comes in.

**Doors**—Very large, making it convenient to feed and clean the furnace. Extra clean out door furnished with each furnace, so that the radiator can be turned so the smoke pipe can enter at any direction desired.

**Water Pan**—Large iron vapor pan to be kept filled with water to moisten the air and keep it wholesome.

**Accessories**—With every furnace we supply an oxidized copper plated damper regulator, to be screwed to the base-board in the living room, with chains and pulleys for connecting it to the check and draft dampers; asbestos cement for the joints; shaker handle and poker, and bolts for fastening the different parts together.



Hercules Volcano Warm Air Furnace for Hard and Soft Coal, Coke and Wood.

## Prices on Furnaces

Shipped from foundry in OHIO, from which point customer pays the freight. When ordered with fittings and registers the complete heating plant is shipped together in one consignment.

Catalog number.....	269A2190	269A2191	269A2192
Furnace number.....	320	322	324
Diameter of casing, inches.....	34	38	42
Diameter of fire pot, inches.....	20	22	24
Size of ash door, opening, inches.....	12 1/4 x 16	13 1/2 x 18	14 1/2 x 20 1/2
Size of feed door, opening, inches.....	9 x 11 3/4	9 x 11 3/4	9 3/4 x 12 3/4
Diameter of smoke pipe, inches.....	8	8	8
Height of radiator, inches.....	10	11 1/4	11 3/4
Diameter of radiator, inches.....	29	32	36
Height with casing, inches.....	56	59	62
Shipping weight, including casing, about, pounds.....	775	910	1,115
Heating capacity, cubic feet.....	10,000	15,000	20,000
Price with casing, as illustrated.....	\$67.20	\$81.63	\$ 96.60
The approximate cost of registers, pipe and fittings for a 4-room house is.....	45.57		
The approximate cost of registers, pipe and fittings for a 6-room house is.....		91.64	
The approximate cost of registers, pipe and fittings for a 9-room house is.....			132.14

Our Positive Water Coil to fit any of these furnaces, \$2.36 extra. Wood Burning Grate, \$2.10 extra.

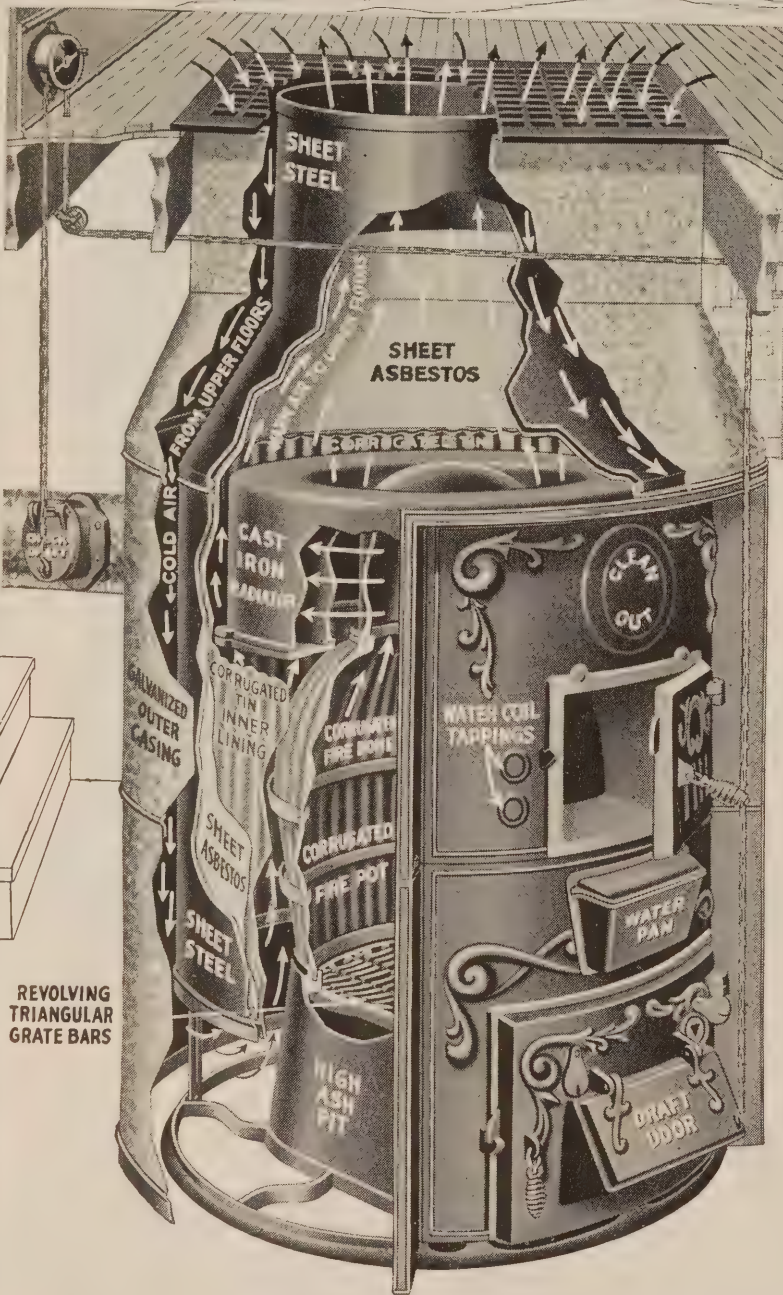
Any of these furnaces equipped with gas fire pot in place of regular upper fire pot at a slight extra charge.

**Be sure to fill out information blank carefully so that we can be sure to send proper piping and registers.**



# Easy Payments on Pipeless Furnaces

**Make Your Own Terms** See Page 2.



*No more coal, smoke or ashes in your living rooms.  
No putting up or taking down stoves every six months.  
Costs little more than a stove.  
Easy to install.  
Keeps entire house warm.  
Gives you more space in your living room, which would otherwise be taken up with a stove.  
Economical in fuel.  
Burns hard coal, soft coal, wood or coke.*

## Simplest and Most Economical of All Heating Systems

Our Pipeless Furnaces are the simplest of all systems of heating and, by reason of their extreme simplicity, they are, without any question, the most economical in fuel. The heat is delivered to your rooms almost instantaneously, without passing through any long system of pipes, so there is practically no heat wasted in the basement. Your basement will always be cool enough for vegetables, and for every shovelful of coal you put into this furnace you will get big returns in actual heat units in your rooms. This is the reason our Pipeless Furnaces have become so popular.

### Keeps Entire House Comfortably Warm.

Our Pipeless Furnaces not only keep the room in which the large register is placed comfortably warm, but experience has proved that in any ordinary residence where one of our Pipeless Furnaces is installed (if the doors between adjoining rooms are left open, or registers installed in the ceiling, so as to allow a reasonable amount of circulation between the rooms), every room will be comfortably warm.

### Easy to Install.

Our Pipeless Furnaces cost little more than a stove and are almost as easy to install. A man and a boy can easily set up this furnace in half a day. Complete instructions are furnished with each outfit so that you will understand just how all the parts go together. It does not require an expert mechanic. Anyone who can set up an ordinary heating stove can install this furnace by following our simple instructions.

### Size to Order.

Figure up the total cubic contents of your building and select a furnace of corresponding capacity from the table below.

If you live in a real cold climate, or your house is unusually hard to heat, or if you will burn wood or soft coal, we would recommend ordering one size larger furnace. It is always better to have a furnace a little larger than is actually required.

If you prefer we will estimate the size furnace you require for your building. Fill out the special heating information blank enclosed with this catalog carefully and return it to us. Our engineers will figure the correct size furnace and we will quote a price, including all freight charges, to your station if you wish.

### Easy Payment Plan.

We will arrange the terms of payment so that you can pay for the furnace in small monthly payments, which you can easily meet. Remember, every furnace is backed by our guarantee of satisfaction. You can take all the time you want to give the furnace a fair test, and if you are not absolutely satisfied, return the furnace and we will return your money, with all transportation charges you have paid. If ordering on easy payments, please use special time payment order blank inclosed with this catalog.

## The Hercules Pipeless Furnace

Our Hercules Pipeless Furnace, illustrated above, embodies the most advanced improvements in pipeless furnace design.

It is made of heavy cast iron throughout, equipped with heavy revolving triangular grates, corrugated fire pot castings and cast iron radiator.

The inner casing is lined with corrugated sheet tin and sheet asbestos, as clearly shown in the above illustration. High ash pit prevents burning out grate bars. Liberal size fuel door. High quality in workmanship, finish and material.

Furnace is shipped in parts so that it will go through a small basement doorway. Can be adjusted to any height of basement from 6 to 8 feet.

## Prices of Hercules Pipeless Furnaces

	269A2255½	269A2256½	269A2257½	269A2259½
Diameter of fire pot, inches...	20	22	24	28
Diameter of inside casing, in.	38	42	46	52
Diameter of outer casing, in.	46	50	54	62
Size of feed door, inches...	10x11	11x12	11x13	11½x14½
Depth of fire pot, inches...	11½	12	12½	13
Diameter of smoke pipe, in.	8	8	8	9
Size of register, inches...	30x30	30x36	36x36	40x40
Heating capacity, cubic feet.	14,000	20,000	28,000	40,000
Approx. shpg. wt., abt., lbs.	950	1,160	1,275	1,800
Price on easy payments.....	\$98.25	\$112.65	\$129.80	\$189.45

### Make Your Own Terms. See Page 2.

Prices are subject to market changes.

Hot Water Coil for Hercules Furnace, \$2.25 extra. If wanted with Gas Burner in addition to coal grate, write for prices.

## Cold Air Is Taken From Upstairs

This furnace differs from our Volcano Pipeless and our Hummer Pipeless in the construction of the casing. It will be observed that in this furnace the cold air is taken from the living rooms. It enters the large register around the sides and drops down to the base of the furnace, where it turns up under the inner casing and passes over the hot surfaces of the furnace, becoming heated again, and it is then discharged into the rooms upstairs through the center of the large register as shown.

This circulation of the warm air to the living rooms and the cold air to the furnace goes on continuously as long as there is a fire in the furnace, and causes the warm air to circulate to all parts of the building.

Full instructions for installing and operating sent with every furnace.



# Easy Payments on Pipeless Furnaces

**Make Your Own Terms**

See Page 2.

**Make Your Own Terms**

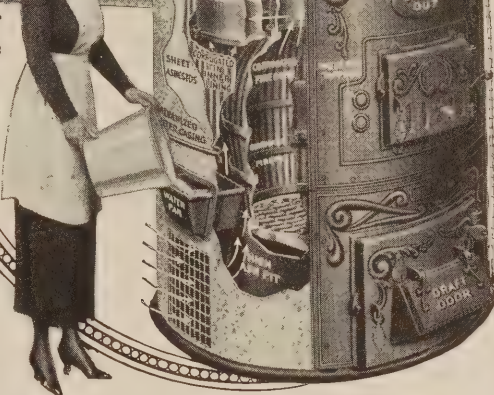
See Page 2.

## Our Volcano Pipeless Furnace.

Our Volcano Pipeless Furnace illustrated here is made the same as our Hercules Pipeless Furnace described on opposite page, except that it has only one outer casing and the cold air, instead of being drawn down around the outer edge of the large register, as with our Hercules Pipeless Furnace, is taken in at the bottom of the casing through screened cold air intakes. This gives the full capacity of the large register for warm air circulation. This is one of the simplest, most efficient pipeless furnaces on the market, and is recommended with the assurance that it will give you highly satisfactory service.

Adjustable to Any Height of Basement 6 to 8 Feet.

Water Pan Keeps Air Moist.



Burns Hard Coal, Soft Coal or Wood.

## Easy to Install.

Our Volcano Pipeless Furnace, illustrated here, is one of the simplest types of pipeless furnaces on the market. It costs little more than a stove and is almost as easy to install. A man and a boy can easily set up this furnace in half a day. Complete instructions are furnished with each outfit so that you will understand just how all the parts go together. It does not require an expert mechanic; anyone who can set up an ordinary heating stove can install this furnace by following our simple instructions.

## Order Now! Pay on Our Easy Payment Plan.

Now is the time to order your furnace. We can give you prompt shipment and, by installing the outfit now, you will be ready for the winter.

## Make Your Own Terms. See Page 2.

Remember, every furnace is backed by our guarantee of satisfaction. You can take all the time you want to give the furnace a fair test, and if you are not absolutely satisfied, return the furnace and we will return your money, with all transportation charges you have paid.

## Prices and Dimensions.

Shipped From Factory in OHIO.

If Ordering on Our Easy Payment Plan Please Use Special Time Payment Order Blank Found in the Specification Booklet Enclosed With This Catalog.

Catalog No.	Diam. Fire Pot, Inches	Heating Capacity, Cubic Feet	Size Fuel Door, Inches	Depth Fire Pot, Inches	Diam. Casing, Inches	Diam. Smoke Pipe, Inches	Size Reg. Face, Inches	Shpg. Wt., About, Lbs.	Price Complete, Easy Payments
269A2230 1/2	20	14,000	9 x 11 3/4	11 1/2	35	8	20x22	825	\$ 75.10
269A2232 1/2	22	17,000	9 1/2 x 12 5/8	12	38	8	22x24	1,050	95.40
269A2234 1/2	24	25,000	9 3/4 x 12 5/8	13	42	8	26x26	1,275	103.65
269A2236 1/2	26	36,000	9 3/4 x 12 5/8	14	46	9	28x28	1,450	136.20
269A2238 1/2	28	48,000	10 1/2 x 12 5/8	14	50	10	28x36	1,650	151.10
269A2240 1/2	30	67,000	10 1/2 x 12 5/8	15	54	10	36x36	1,850	181.95

**Make Your Own Terms.**  
See Page 2.

PRICES ARE SUBJECT TO MARKET CHANGES. Hot water coil, \$2.25 extra. If wanted with gas burner in addition to coal grate, write for prices. Wood burning grate plate, \$2.00 extra.

## Hummer Pipeless Furnace

Burns hard coal, soft coal, wood or coke.

Our Hummer Pipeless Furnace is without a doubt one of the simplest and best pipeless furnaces on the market for use where all kinds of various fuels are burned, and especially for burning wood.

This furnace has a large steel drum combustion chamber which is covered with a heavy cast iron top plate, all parts being well made and carefully cemented, bolted or riveted, making sound, gastight joints.

It is built in the same way as our Hercules Hummer Furnace described on pages 36 and 39 of our special Heating Catalog.

## A Rapid Heater.

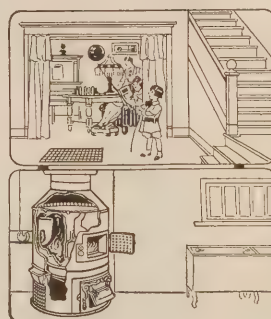
This furnace is a rapid heater, giving almost instantaneous results from a very small fire. We recommend this furnace to you with the assurance that you will be more than pleased with the results it gives. It is really surprising what a large volume of heat it gives from a small amount of fuel.

Adjustable for any height of basement from 6 to 8 feet. Prices include furnace complete with large steel register, check damper, shaker, pulleys and cement.

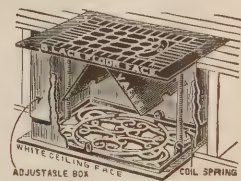
Shipped from factory in OHIO. Read information on opposite page regarding correct size to order.

	269A2250 1/2	269A2251 1/2	269A2252 1/2
Diameter of fire pot, inches.....	30	36	44
Diameter of casing, inches.....	36	40	48
Size of feed door, inches.....	10x14	10x14	12x15
Depth of fire pot, inches.....	10 1/2	10 1/2	11
Diameter of smoke pipe, inches.....	8	8	8
Size of register, inches.....	15x24	18x24	18x30
Heating capacity, cubic feet.....	10,000	15,000	21,000
Approximate shpg. wt., abt., lbs.....	825	800	1,000
Price on easy payments.....	\$60.00	\$71.35	\$83.50

**Make Your Own Terms. See Page 2.**



Combination Floor and Ceiling Registers Used With Pipeless Furnaces.



Carries heat from room below to heat room above. Consists of black floor register with valves, white ceiling plate and adjustable steel metal box connecting the two. A number of these should be used with a pipeless furnace to let heat circulate to second floor. State size wanted.

Size Opening About	Shipping Wt., About	Price, Each
8x10 inches	11 pounds	<b>\$2.85</b>
10x12 inches	13 pounds	<b>4.35</b>
12x14 inches	18 pounds	<b>6.55</b>



# About Prices On Heating Plants

It is impossible to quote prices in this catalog on all the materials necessary for a heating plant that will heat every home. Every heating plant must be designed for the home it is intended to heat. Very few homes are identical in construction and location. The heating plant—boiler, radiation, etc.—that will satisfactorily heat a 5-room bungalow in Southern Missouri could not be expected to heat the same bungalow in Montana, because climatic conditions are different. The term 5-room house really means nothing to the heating engineer and expert, so far as guaranteeing satisfaction in a heating plant is concerned, because one 5-room house may be 28x32 with 9-foot ceilings, all rooms on one floor. Another 5-room house may have the same area, 28x32, but there may be 3 rooms downstairs and 2 upstairs. It is obvious, therefore, that different types and sizes of radiators are necessary; more piping is required for the house with two floors than for the house with all rooms on one floor.

It is far better, and we recommend, that you permit us to study your heating problem and allow us to estimate on a complete plant, especially designed for your house. It is much more satisfactory, and we can guarantee absolute satisfaction in every detail. Just fill out the information blank properly, answer all questions carefully, and we will gladly quote price on a plant for your individual home. You will be under no obligation to us whatsoever.

The following figures will give you a good idea of the approximate cost for heating the average one or two-story building with hot water, steam, warm air or pipeless furnace heat, including all necessary pipe, fittings, etc., ready to install.

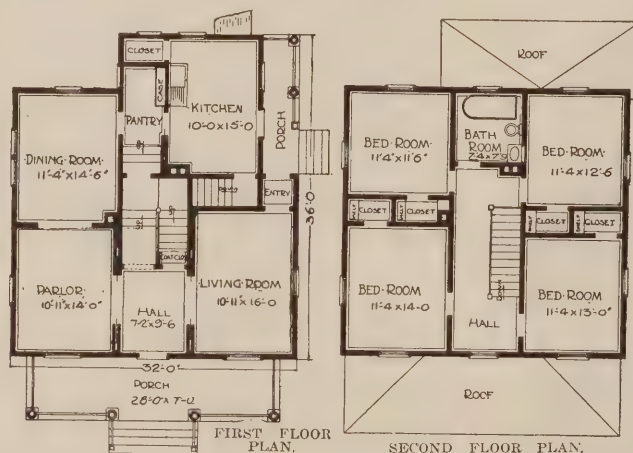
## One-Story Building.

Hot Water, 315 square feet of radiation basis .....	\$290.70
Steam, 205 square feet of radiation basis .....	234.75
Warm Air Pipe Furnace, 8,400 cubic feet basis .....	126.81
Pipeless, 8,400 cubic feet basis.....	106.16

## Two-Story Building.

Hot Water, 410 square feet of radiation basis .....	347.20
Steam, 255 square feet of radiation basis .....	274.35
Warm Air Pipe Furnace, 9,936 cubic feet basis .....	153.43
Pipeless, 9,936 cubic feet basis.....	111.66

Most of the people who buy heating plants from us install them following the simple, easy-to-understand instructions which we furnish free of all charge. This is the most economical method. No previous experience with pipe fittings, radiators, boilers or the various tools is required, because our instructions are so simple anyone can understand them.



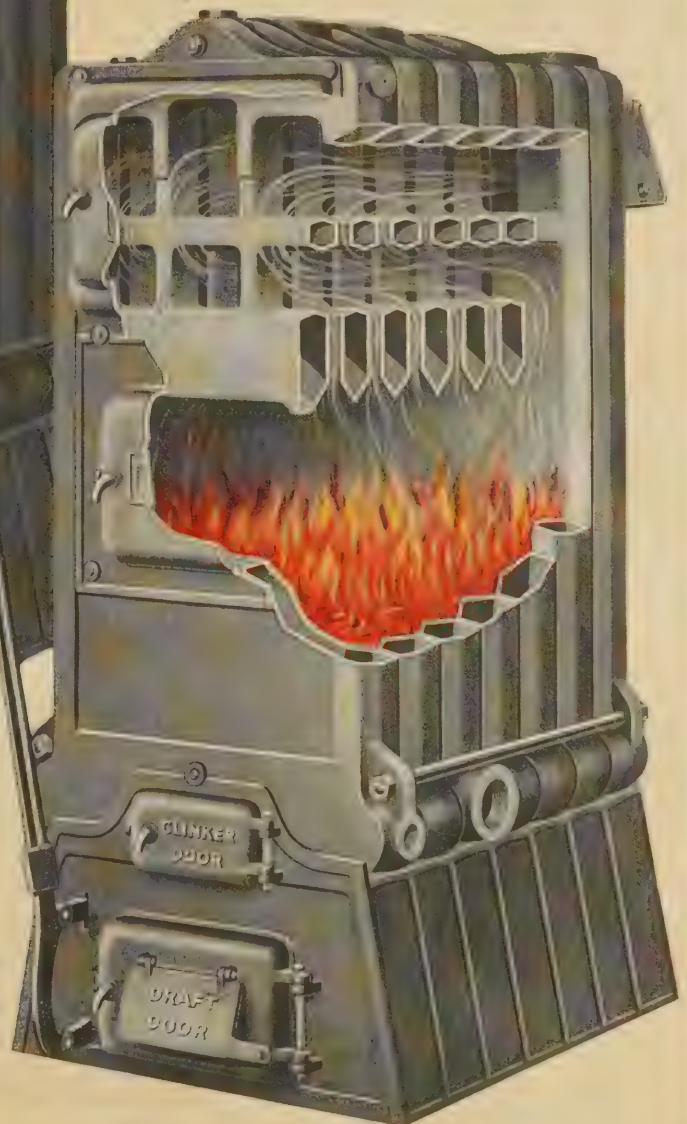
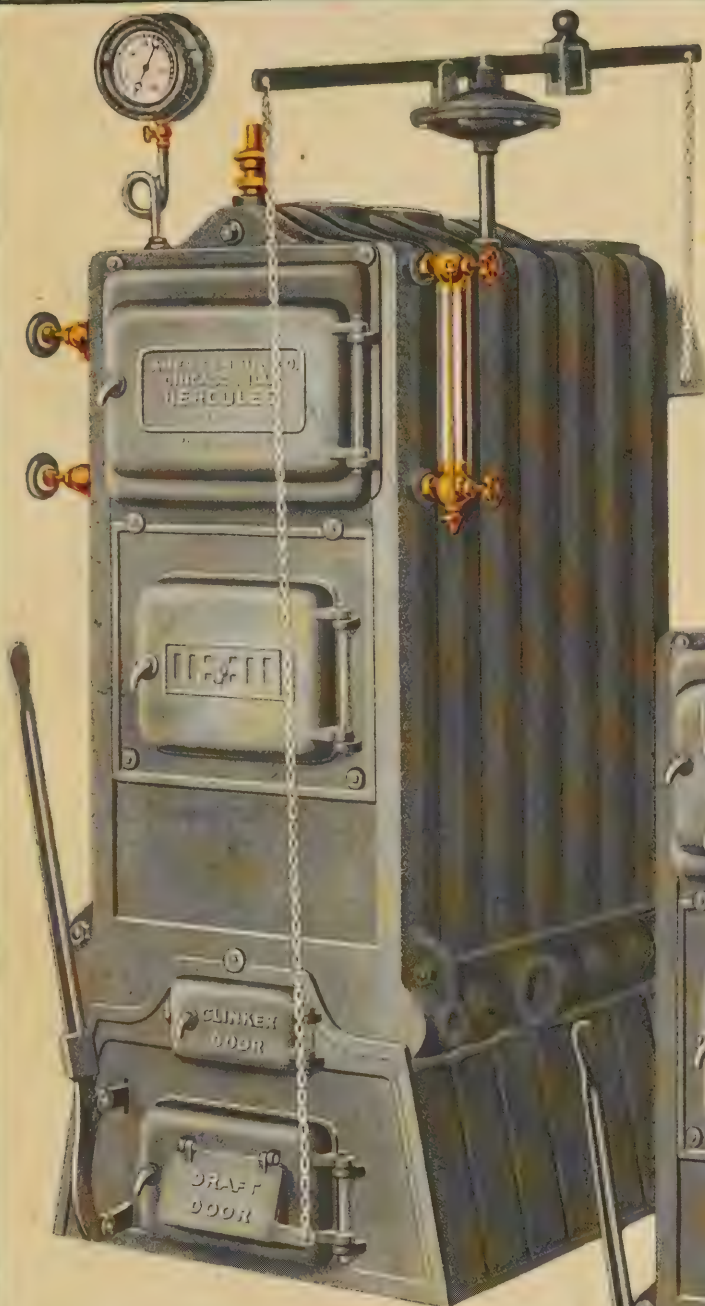
The above show the first floor and second floor plan of a house 32x36 feet. The cost of heating plants of different types for this home is as follows:

Hot Water Heating Plant.....	\$421.85
Steam Plant .....	354.15
Warm Air Furnace.....	185.71



# Hercules Home Heating Boilers

Efficient  
Durable  
Economical



## Hercules Upright Cast Iron Boiler With 17-Inch Fire Pot

For Steam or Hot Water Heating

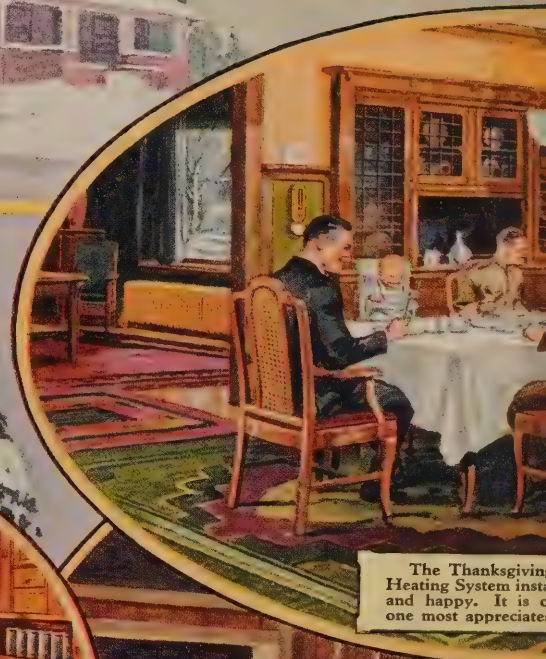
Maximum heating surface.  
Deep fire pot.  
Long fire travel.  
Rocking grate bars.  
Liberal sized fuel door.  
Numerous water passages exposed to fire.  
Rapid circulation.  
Quick response to firing.  
Easy to clean and to operate.  
Burns any kind of fuel.



# Hercules Home Make these Com



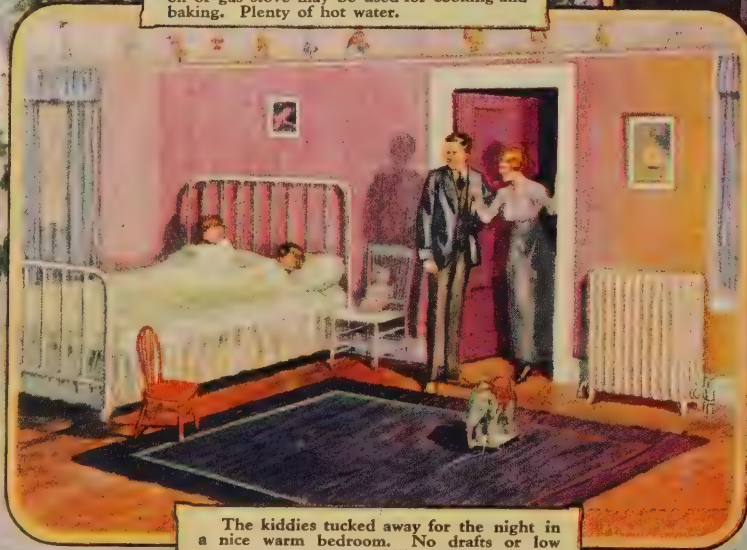
What a pleasure to bathe or shave in a nice warm bathroom. Coil in boiler supplies hot water in abundance all Winter long with no extra expense for fuel.



The Thanksgiving Dinner is made possible by the Hercules Heating System installed in this home. It is one of the most appreciated features of the home.



No coal, smoke or ashes in the kitchen. Clean, sanitary and comfortable. A modern oil or gas stove may be used for cooking and baking. Plenty of hot water.



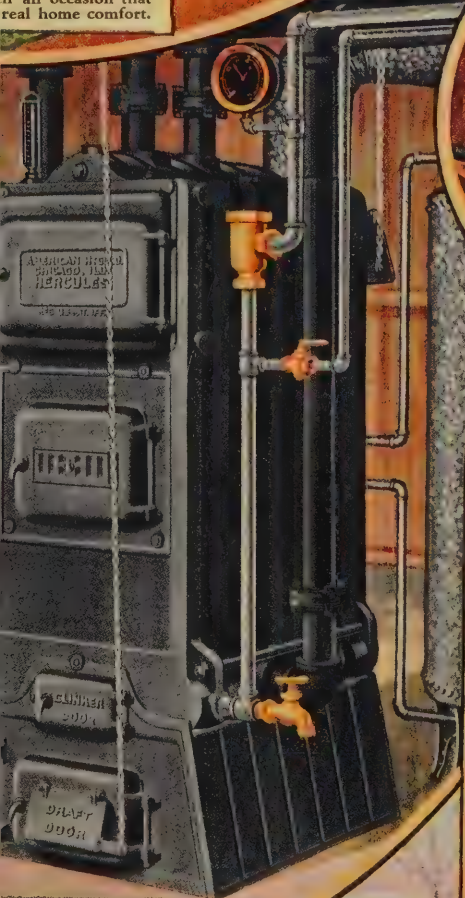
The kiddies tucked away for the night in a nice warm bedroom. No drafts or low temperature to cause chills, coughs or colds. They can sleep and dress in perfect comfort.



Nothing mysterious about the Hercules Boiler. It is so simple to operate that a boy can easily take care of it daytime when the mother is busy.



# Heating Systems Makes Possible

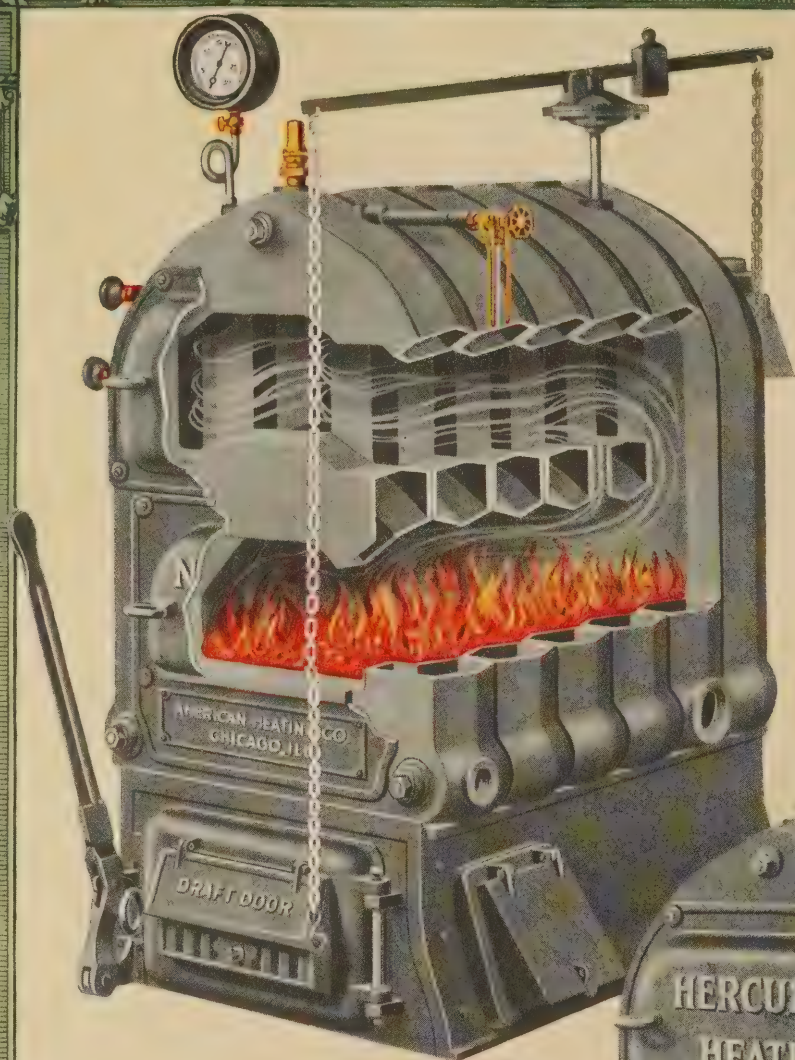


ut the Hercules  
rate that a woman  
e of it during the  
s are away.



# Hercules Horizontal Boilers

for Steam  
or  
Hot Water  
Heating



## Hercules Cast Iron Boiler With 21-Inch Fire Pot

Rocking grate bars.

Heavy castings.

Long fire box and large fuel door permit burning large logs of wood or large lumps of coal.

Smoke is largely consumed in passing over long bed of hot coals to rear.

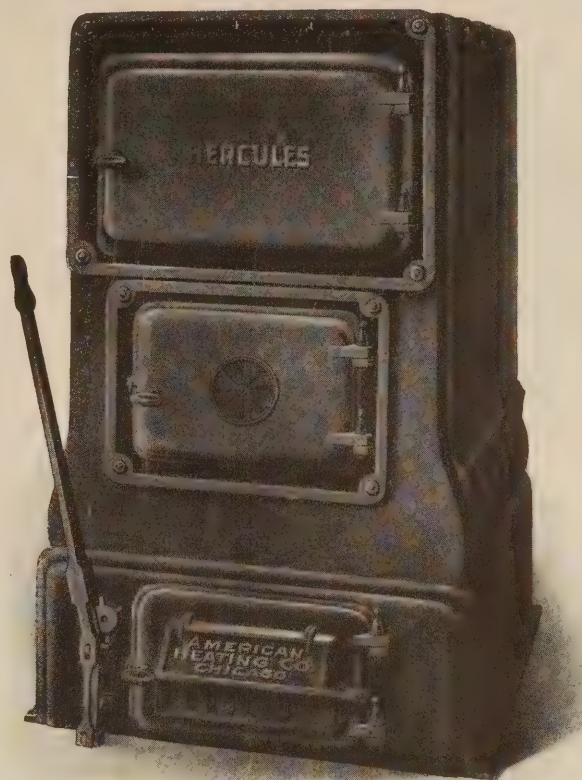
Fire travels three times length of boiler before escaping into chimney.

An efficient, durable and powerful heater, easy to clean and easy to operate.

Burns hard coal, soft coal, wood or coke.



# Hercules Heating Plants



24 and 32-Inch Fire Pot Hercules Heating Boiler.

## How Boiler Ratings Are Figured.

All hot water and steam boilers are rated according to the actual square feet of radiation they will carry at the boiler. Notice in the preceding pages that the heating capacity of a boiler is always given in square feet of radiation. Hot water ratings are based on a temperature of 180 degrees Fahrenheit, while steam ratings are figured on a basis of 2 pounds pressure. These ratings do not include the heating surfaces of the flow pipes, return pipes and connections. To find the size boiler necessary to heat a building, we add 75 per cent to the total square feet of heating surface contained in the radiators that are to be used. This is to allow for the heat lost from the mains and connections and also to insure a reserve capacity. When a coil or water heater is placed in the fire pot to heat water for domestic use, allow 2 square feet of radiation additional for hot water and  $1\frac{1}{4}$  square feet for steam for every gallon of water contained in the range boiler or storage tank. For instance, if a 30-gallon range boiler is to be connected to a fire pot coil or heater, figure on 60 square feet extra radiation when selecting a hot water boiler and  $37\frac{1}{2}$  square feet extra when selecting a steam boiler.

## Let Us Submit an Estimate on a Heating Plant for Your Home.

No two homes are identical in construction. It is, therefore, impossible to make a definite price in this catalog on a heating plant including the boiler, radiators and all pipe and fittings. Even a plant designed for a five-room house may heat one home satisfactorily, but fail to do so in another location because of the different arrangement of rooms, etc. It is better to fill out carefully the information blank in this catalog and let us furnish you an estimate on a plant that we will guarantee to heat your home in a satisfactory manner.

We refer you to page 28 for estimate on heating plants of various types for different sized buildings.

## The Best Fuel to Use.

The ratings of all Hercules Boilers were obtained with a hard coal fire. The small egg size will be found the most suitable. If you will use soft coal, coke or wood, select a boiler with a radiation equal to just twice the total amount of heating surface contained in the radiators, or 25 per cent greater than you will need when burning hard (anthracite) coal. Soft coal requires a greater grate surface because it cakes together and will not let the air pass through readily. It also requires more heat absorbing surface, as the soot settles in the flues and is harder to remove than the dust from hard coal. A deposit of soot on the heating surfaces of any boiler will greatly reduce its efficiency, as it acts as an insulator, preventing the heat from passing through into the water.



Internal view, showing construction and fire travel.



# Comfort Plain Steam and Hot Water Radiators

**M**ANUFACTURED from high quality material; properly constructed; graceful and artistic in design, and easily kept clean.

Comfort Radiators have a wider space between the sections for the circulation of air than most other types of radiators. This causes the radiators to do the most effective work in giving off heat, both by radiation and convection (by contact with the air). All radiator sections for both steam and hot water are put together with non-rusting push nipples.

Our radiators are made in standard heights, as follows:

Single-column radiators, 20 inches, 26 inches and 38 inches in height; two-column radiators are 20 inches, 26 inches, 32 inches and 38 inches; three-column radiators are 18 inches, 22 inches, 26 inches and 38 inches; and in any number of sections up to and including 32, to meet the requirements of the rooms to be heated. Hot water radiators are tapped at both ends; steam radiators are tapped at one end only. All taps are threaded right handed.

## TAPPINGS

### STEAM

0 to 24 feet, 1 inch.  
24 to 50 feet, 1¼ inches.  
50 to 100 feet, 1½ inches.  
100 feet and over, 2 inches.

### HOT WATER

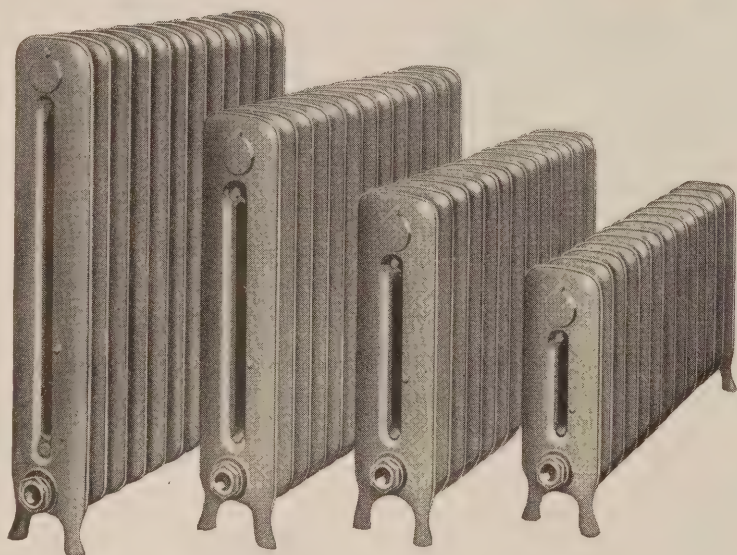
0 to 50 feet, 1 inch.  
50 to 75 feet, 1¼ inches.  
75 feet and over, 1½ inches.

Five-column or window seat radiators are made especially to meet the demands of low radiators to be used in front of the windows where the distance from the bottom of the window to the floor is from 14 to 22 inches.

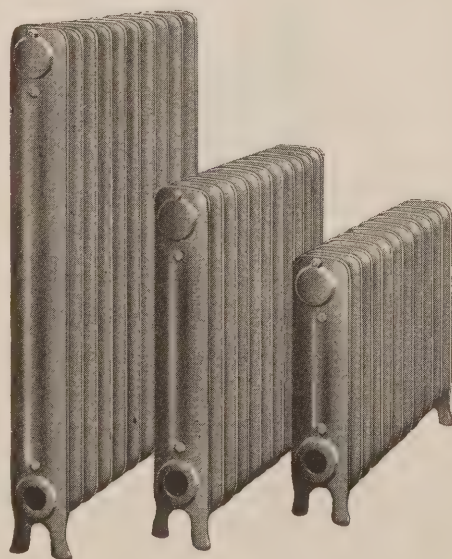
They are also intended for use under window seats or wherever a low radiator is desired. They take up about the same space as a three-column radiator, excepting that they are 13 inches in width. Single column radiators are generally placed in halls, bathrooms, and other parts of the home where it is necessary to use as narrow a radiator as possible. Two and three-column radiators are considered standard and are used for all installations except where conditions make it necessary to install the single or five-column radiators described above.



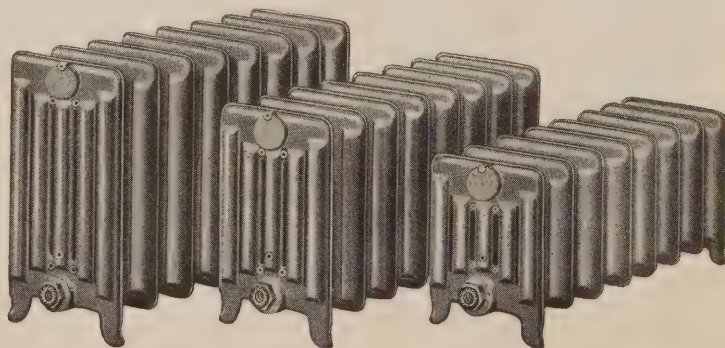
Three-Column Radiators.



Two-Column Radiators.



Single-Column Radiators.



Five-Column or Window Radiators.



# Electric Light and Power

## Every Home Should Have Electricity

The farm should be equipped with electricity for the same reasons that it is used in cities and towns—because it has proved safer, more convenient, far more healthful and useful than the old fashioned kerosene lamp.

In the first place electricity would mean excellent light whenever and wherever you wanted it, at the mere turning of a switch or pressing of a button. You would have your electric lamps placed wherever you would need them, throughout the house, in the rooms, closets and halls, from cellar to attic. You would have one or two on the porch, on the path or road leading to the house, and a good size one at the gate. Then you would have one or more at the garage, the pump house, the workshop, the henhouse, other outbuildings, at various points on your place according to necessity, and especially in the barn and the barnyard. How convenient and at the same time how perfectly safe to turn on an electric lamp down at the barn on a dark morning! No trouble at all, and—most important—you have no occasion to use matches and oil lanterns, which have been responsible for so many fires on the farm. And then, when the darkness comes so early during the Winter, to be able to go up into the loft and pitch down the hay by bright electric light!

Besides being fine and bright, electric light is always steady, burning without a flicker in draft or strong wind.

Then your electricity will do many a chore for you. It will run a washing machine, a churn, a cream separator, a pump, a vacuum cleaner, a sewing machine, an electric fan and a small motor for the workshop.



Safety First, Last and Always.

and our generator at the same time, the number of machines depending on the horse-power of your engine. Of course, you can use the engine alone for many purposes. You may use water power, gas, gasoline, oil or steam engine, whichever you find most convenient or economical.

We recommend our Economy Gasoline Engines, shown on pages 55 and 56. Our engines are high grade and we can save you money. A clear Instruction Book comes with each engine, so that those who have never before run one find no difficulty in operating it.

The engine is connected with the generator by a belt. The other parts are connected by two or three wires. On the storage battery the different cells must be connected, and the connectors are plainly marked.

## Easy to Install

Our electric light and power plants consist of just four main parts:

1. The Generator or Dynamo.
2. The Switchboard.
3. The Storage Battery.
4. The Source of Power (gasoline engine or other power).

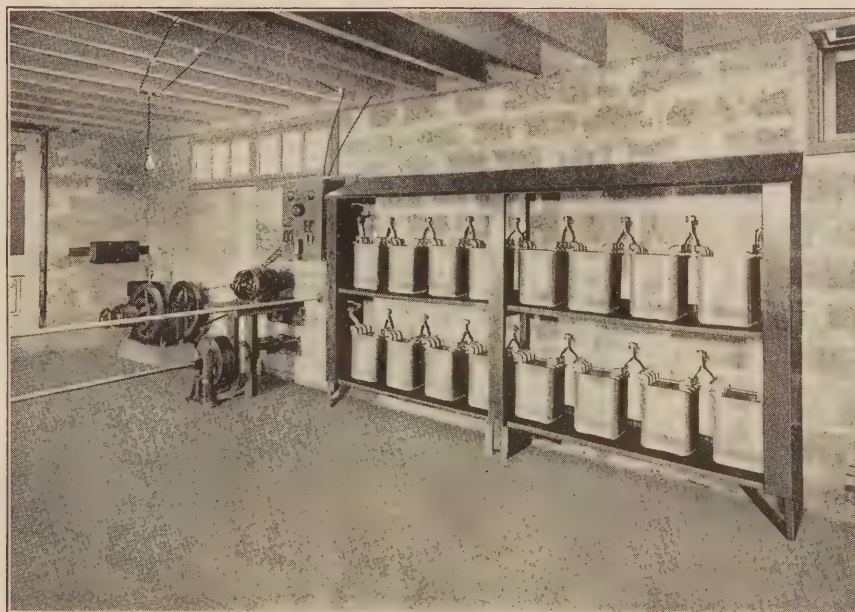
Since many of our customers ALREADY OWN GASOLINE ENGINES, we list our plants without them, noting with each plant the horse-power required to operate the generator at full load. With these plants you do not have to invest in an engine that is of no other use than for lighting. IF YOU HAVE NO ENGINE AT PRESENT, take into consideration that if you buy an engine to charge your electric light plant, you will be able to get much more work out of it than merely charging the plant, which takes only a few hours a week. A line shaft connected with your engine will enable you to run several machines

### Charges While Engine Is Doing the Washing.

... I installed forty-two lights and with switches in every room you don't have to run around in the dark with a match or torch to light the lamp or gaslight. I charge once a week for about six hours at the same time the engine is doing the washing. And as for installation and operation, it was as easy for me as to set up and handle a tongueless cultivator. Your instructions were so simple anybody ought to understand them.

HENRY LAMMERS,  
R. No. 2, West  
Point, Neb.

[Purchased plant in  
October, 1914.]



Electric Lighting Plant of E. E. Matter, Plainfield, Ill., Purchased From Us.

## Plenty of Light—Clean and Handy.

We have one of your electric light plants installed since September 1, 1914. It has proven very satisfactory in every respect. We have plenty of light and find it clean and handy. The plant was easy to install and easy to understand. We have forty-nine lamps (bulbs) in the house, one in the garage, and five in the barn. We charge the battery about four or five hours each week; also have a line shaft and use the engine to run an air compressor for our water system.

E. E. MATTER, R. F. D. 2, Plainfield, Ill.

### Does This Sound Difficult?

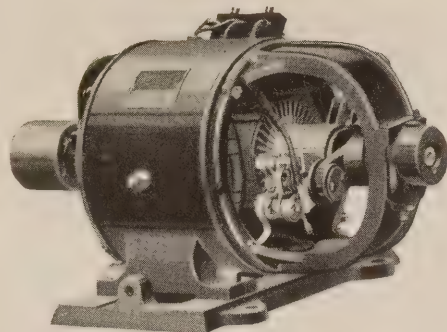
I received the plant from the railroad station at night and the next day before dinner I had the whole outfit installed. I don't see how anyone could go wrong after reading your book of instructions.

C. O. TODD,  
R. No. 1, Easton, Md.

[Purchased plant in  
June, 1915.]

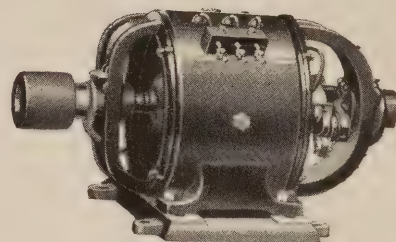


# The Generators of Our Plants

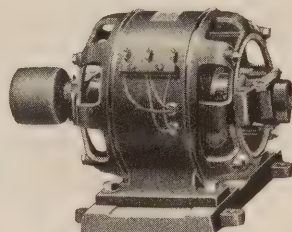


Generator for Our Large Plant.

**Electricity**  
is the safest light  
and the most  
convenient light



Generator for Medium Size Plants.



Generator for Small Plants.

A generator or dynamo is simply a machine for changing mechanical power into electrical power. Our generators are properly designed and in every way fitted to our plants. Because of their rugged construction they will even stand an overload for short periods and can carry a smaller overload up to 25 per cent for continuous runs. They will all supply more current than is actually required to charge our

batteries at their normal rates.

They require practically no attention. Bearings are self oiling, and an occasional filling of the oil wells will keep them in good condition.

The generators we supply with our Farm Electric Lighting Plants are furnished by one of the most reliable manufacturers of electrical equipment. They are specially designed to meet the farm lighting problem and they do it admirably. Each generator is carefully inspected and tested at the factory before shipment, and is guaranteed to do its work splendidly under varying conditions.

## The Switchboard

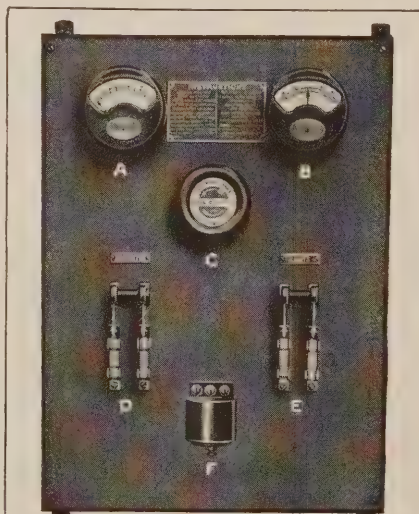
The switchboard, as the name implies, is a board or panel with switches and gauges necessary for the control of the plant. Our boards are made of transite ebonite, composed of asbestos fiber and other fireproof insulating and waterproof compounds. They are very

strong, light in weight, yet harder to break than slate. The material of which they are constructed is recommended for switchboards by the National Board of Fire Underwriters. The switchboard is mounted on steel supports so that it can be secured to the wall and yet have all parts accessible at all times.

## Mazda Lamps

The lamps supplied with our plants are the famous Mazda Lamps. These lamps give a brilliant white light, much stronger and brighter than the old type of carbon lamp, yet they use less electricity. In fact, they give about three times as much light for the same consumption of power and, as they are used or grow old, they give proportionately a much better light than the carbon lamp.

Think of these fine bright lamps, the largest size of which will give more light than the biggest oil table lamp you ever saw, at the mere turn of a switch or pressure of a button. No reservoir to fill, no wick to trim, no chimney to wash. They are the modern, the ideal light.



Size, 18x24 Inches.

A—Voltmeter indicates the voltage or pressure.  
B—Ammeter indicates, in amperes, the amount of current flowing.  
C—The Rheostat regulates the charging rate.  
D—Switch marked "GENERATOR" makes connection between generator and battery.  
E—Switch marked "LIGHTS" makes connection between plant and light wires.  
F—Automatic Circuit Breaker.

## Letters From Satisfied Users

### Would Not Do Without It.

Our plant gives us the best of satisfaction. We would not do without it. A person does not fully appreciate the value of a plant until he installs one on a farm. We have four lights in the barn, one in the garage, two in the corn crib, besides the other lights about the place. We also run a vacuum cleaner.

PETER MAIN, R. 3, Box 56, Gibson City, Ill.  
Purchased plant in January, 1917.

### Best Light in This Part of Country.

I have your plant installed and it works splendidly. I have eighteen lights in the house and three in the barn and we have light any time of the day or night at turn of a switch. Without a doubt, we have the best light in this part of the country, and many people have seen our plant and are interested in it. I charge my battery about three to four hours a week. It was very easy to install your electric lighting plant. I did the work myself, including the wiring.

FRED ROBERTS, R. F. D. 1, Hepburn, Iowa.  
Purchased plant in December, 1913.

## Our Instruction Book

The day your plant is shipped one of our Instruction Books is mailed to you, so that before the plant arrives you will have an opportunity to become familiar with the various parts and their relation to one another. This book also deals fully with the operation and care of our Farm Electric Lighting Plant. We have spared no expense to make this book one of the most practical, helpful handbooks ever published. The numerous illustrations are all made from actual photographs. These show exactly how every connection is made, and we tell you just what to do and when and how to do it to get the best results. With this book in hand it is almost impossible to make a mistake, as the letters from our customers show.



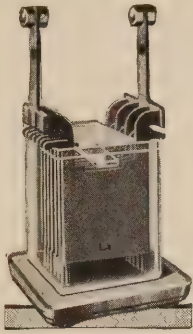
# The Storage Battery

The storage battery of an electric plant compares with the storage tank of a water supply system. It stores up electrical energy so that light or power may be had at any time at the turn of a switch. Without a storage battery it would be necessary to run the generator every time you wished to light a lamp or use electricity in any way. It would not pay to run an engine for only one or two lights.

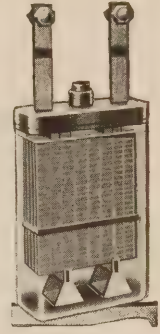
## Two Types of Batteries

We sell two types of batteries, pasted plate in sealed glass jars and the Plante plate in open glass jars. Both types are manufactured by the Willard Storage Battery Company.

Pasted plate batteries are so named because the plates are made by pressing into a frame made of alloy a lead paste, which is the active material of the plate. In our pasted plate batteries these plates are packed very closely, with separators between them. This method of construction assists in preventing the active material from dropping out of plates. Space is provided at the bottom of the jars for any material that may fall during the life of the battery.



Open Glass Jar of  
Plante Solid Plate  
Type.



Sealed Glass  
Jar, Pasted  
Plates.

Our Plante plate batteries are contained in open glass jars. The plates are solid lead sheets made with countless fine grooves to expose more surface to the action of the electrolyte (the active liquid with which the jars are filled).

## Comparison of Types of Batteries

Both types are guaranteed to give good service. Glass jar batteries make it easy to see the condition of the cells and easy to regulate.

Sealed glass jar batteries have the advantage over the Plante plate type in that they are shipped fully charged and ready for immediate use. Sealed glass jar types of batteries are now generally used in lighting plant work and are proving very satisfactory for this class of service.

It is impossible for anyone to tell you exactly how long any battery will last. Certainly no battery will last a lifetime, because each time the battery is charged or discharged a chemical action takes place which in time wears away the plates.

## Storage Battery Capacity

The capacity of a storage battery is measured in ampere-hours, the number of amperes of current that will flow in a certain number of hours. All our batteries bear STANDARD ratings, which are based on the number of amperes that will flow out in EIGHT hours.

To explain, when we state in our description of a plant that the battery is an 80-ampere battery, we mean that it will give a steady current of 10 amperes for eight hours. If you need only 5 amperes, this amount of current will flow for sixteen hours before the battery is fully discharged ( $80 \div 5 = 16$ ). It is a peculiar fact, however, that when you use current faster than the eight-hour rate of your battery, you will not get the full capacity out of it. For instance, if you use 14 amperes steadily from your 80-ampere-hour battery, it will give this current for only about five hours, or only 70 ampere-hours altogether.

Some firms give the capacity of their electric plants in lamps only. A plant may be called a twenty-lamp plant or a fifty-lamp plant. But lamps are of different sizes, using up different amounts of current. You should also know how many hours the plant will light the number of lamps given. You will notice in the descriptions we give of our plants, on pages 36 to 42, that we give the exact sizes of lamps and the exact number of hours they may be used with each plant.

There is still another way of figuring the capacity of an electric plant. We explain this method (the watt-hour method) on page 34, where we show you how to figure the size battery you need for your place.

The life of ANY battery depends:

- (1) On how often and how hard it is used;
- (2) On the care given it;
- (3) On the kind of battery and the size and thickness of the plates.

In regard to the first two points, if our directions are followed—and they are easy to follow—our batteries will last as long as any and much longer than many of their type. As regards the third point, the well known Willard batteries supplied with our plants are considered among the best of their kind, and in our descriptions of our plants we give you full information as to size of plates, etc.

## We Guarantee Our Batteries

We guarantee our storage batteries for a definite number of years, depending upon the type.

We guarantee our Plante Plate Batteries for 5 years. (NOTE—The electrolyte (liquid in the jars) and the separators need to be renewed in two and one-half to three years after the battery is installed.)

We guarantee our Sealed Glass Jar Batteries for 3½ years.

The above guarantees are based on the following conditions:

- (1) Batteries are to be installed and operated according to our instructions.
- (2) Batteries to receive not more than two full charges each week to serve your needs.

If for any reason the entire battery, or any part thereof, proves defective or fails to give good service within the period for which the particular type is guaranteed, it will be replaced on a basis of the service rendered and a full term guarantee will be then issued for the new parts.

## Plante Battery

In other words, if some parts of our Plante battery should prove defective, or for some reason other than abuse did not give good service at the end of three years, we will replace them for three-fifths the price of new parts, and will give a new guarantee of five years on the new parts. You will see that this is perfectly fair when you consider that, in the case cited, the old parts would have only two more years to run, and we would give you new parts which we guarantee for FIVE years, or three years more than you originally paid for.

## Sealed Glass Jar Battery

For example, if some part or the whole battery should prove defective at the end of two and one-half years, we will replace it for  $2\frac{1}{2}$  divided by  $3\frac{1}{2}$ , or five-sevenths of the price of the new part or battery, and give a new guarantee of three and one-half years on the new material.



# Choose the Right Size Plant

The size electric plant to order is figured very much the same way as you figure the size tank for a water supply system. You figure the size of the water tank not by the number of faucets or other outlets so much as by the **NUMBER THAT WILL BE USED EVERY DAY**, their size, the length of time the water will be running, and finally by how often it will be necessary to fill the tank. And you may either pump a little water every day, or may fill the tank once a week or so.

In the same way the size electric plant to order can be determined by the number of lamps and electrical appliances that will be used every day, the size of them, the length of time they will be used, and how often you wish to charge the storage battery. You may, if it is convenient, charge the battery a little every day, and give it a full charge once every three weeks. We give full instructions. If you expect to do all your lighting, etc., from your battery, be sure to order a plant with a battery large enough so that it will not have to be given a full charge more than twice a week to supply all your needs. It is not good for a battery to be given a full charge oftener. Of course, if it will be convenient to run your generator whenever you wish to use electricity, you need not figure on so large a battery. Remember, either generator, or battery, or both may be used.

## Any Number of Lamps May Be Installed With Our Plants

With any of our plants you may put up as many lights as you please—fifty or a hundred—and place them wherever you wish. Of course, with a small plant you may not turn on as many lights at once as with a large plant.

## Basis of Figures

You have doubtless noticed, a lamp will be called a 15-watt or 20-watt or 25-watt lamp. A watt is an electrical POWER unit, corresponding to one seven hundred and forty-sixth of a horse-power.

To save you the trouble of figuring up the power required by lamps, tungsten and nitrogen lamps are rated in watts as well as candle power. This watt rating multiplied by the number of hours a lamp is allowed to burn will give you the work or energy (watt-hours) consumed by the lamp. Thus, one 20-watt lamp burning for one-half hour uses 10-watt hours; two 15-watt lamps burning

for three hours would use 2x15x3 or 90-watt hours.

As in the descriptions of our plants on pages 34 to 42 we give the capacity in watt hours, you can easily figure how much work each plant can do, basing your figures on the number of watts your lamps and other electrical appliances will consume.

The amount of light given by the lamps is told by the candle power (C. P. for short). To give you an idea of what the different candle powers mean, the ordinary barn lantern gives about 4-candle power. A kerosene (coal oil) lamp with a No. 2 Rochester burner gives about 16-candle power. The good size oil lamp generally used in dining or sitting room gives from 25 to 30-candle power, with wick properly trimmed, etc.

## These Figures Will Help You

It will be easier for you to figure for your own place if we show you how we figured for another place that is probably not very different. The house had a parlor, living room, dining room, kitchen, front hall and front porch on the first floor. The second floor had four bedrooms, a bathroom and a hall.

Now, the parlor and the living room should of course have good general illumination and good light for reading, so we gave each room three 20-watt 18-candle power lamps. The dining room needs good light on the table, but the walls and ceiling need not be brilliantly lighted. Two 20-watt 18-candle power lamps ought to do nicely. The kitchen was given one 20-watt 18-candle power lamp, the front hall one 10-watt 8-candle power lamp, and the front porch one 10-watt 8-candle power lamp. Each bedroom received one 20-watt 18-candle power lamp, the hall one 10-watt 8-candle power lamp, and the bathroom one 20-watt 18-candle power lamp. Three 10-watt 8-candle power lamps were allowed for the barn. Closets and pantry can be given 10-watt 8-candle power lamps if wished.

In estimating how much electricity would be used, we figured for a SPECIAL OCCASION in the WINTER, in order to be sure that our customer would get a plant that would take care of ALL his requirements at ANY TIME. If there had been some electrical machine or appliance that he had wished to use every day, we should also have figured in the amount of current

consumed by that machine as given in the description of it. As a matter of fact, a vacuum cleaner, a churn or a small machine of any sort is used only a short time, perhaps once a week, and some of them use very little current. An electric iron and some motors use much more current, however, and so it is not advisable to have them with the smallest plants. In the descriptions of our plants on pages 34 to 42 we advise what sort of appliances they can handle with ease. Be sure you read the descriptions carefully before ordering appliances other than lamps.

Below you will find our figures for the place we have described. Remember, the time is purposely made a little longer than ordinary because it is better to have too much than too little.

## Figures for a House and Barn

	Watt Hours
<b>Parlor.</b>	
Three 20-watt 18-candle power 32-volt lamps.	
7:30 to 10:30 P. M. Total current consumed, 3x20 watts x 3 hours.	180
<b>Living Room.</b>	
Three 20-watt 18-candle power 32-volt lamps.	
6:00 to 10:30 P. M. Total current consumed, 3x20 watts x 4½ hours	270
<b>Dining Room.</b>	
Two 20-watt 18-candle power 32-volt lamps.	
6:30 to 7:00 A. M. Total current consumed, 2x20 watts x ½ hour	20
6:00 to 7:30 P. M. Total current consumed, 2x20 watts x 1½ hours	60
<b>Kitchen.</b>	
One 20-watt 18-candle power 32-volt lamp.	
6:00 to 6:30 A. M. Total current consumed for one-half hour....	10
5:30 to 7:30 P. M. Total current consumed, 20 watts for two hours	40
<b>Front Hall.</b>	
One 10-watt 8-candle power 32-volt lamp.	
7:30 to 10:30 P. M. Total current consumed, 10 watts for three hours	30
<b>Porch.</b>	
One 10-watt 8-candle power 32-volt lamp.	
6:00 to 6:30 and 10:00 to 10:30 P. M. Total current consumed, 10 watts for one hour.....	10 620
<b>Four Bedrooms.</b>	
Four 20-watt 18-candle power 32-volt lamps.	
5:45 to 6:00 A. M. Total current consumed, 4x15 watts x ¼ hour	20
10:30 to 11:00 P. M. Total current consumed for one-half hour....	40



## Hall.

One 10-watt 8-candle power 32-volt lamp.	
5:30 to 6:30 A. M. Total current consumed for one hour.....	10
7:00 to 11:00 P. M. Total current consumed, 10 watts for four hours .....	40

## Bathroom.

One 20-watt 18-candle power 32-volt lamp.	
5:30 to 6:30 A. M. Total current consumed for one hour.....	20
5:30 to 6:30 P. M. Total current consumed for one hour.....	20
10:00 to 11:00 P. M. Total current consumed for one hour.....	20

## Barn.

Three 10-watt 8-candle power 32-volt lamps.	
5:15 to 6:15 A. M. Total current consumed, 3x10 watts x 1 hour	30
5:30 to 6:30 P. M. Total current consumed, 3x10 watts x 1 hour.	30
	230

# How to Choose the Right Plant

On the basis of the figures on this and the preceding page, the total amount of electricity necessary for one day was 620 plus 230, or 850 watt-hours.

An 80-ampere-hour 2,560-watt-hour plant like our No. 208, page 37, or No. 309, page 41, with a capacity of 2,560 watt-hours, would have to be charged only about every three days, as 850 goes into 2,560 three times. And a 134-ampere-hour 4,288-watt-hour plant like our No. 215, page 39, would require charging only about every five days.

Of course, you may find that two lights are sufficient in your parlor and two in your living room, while one may be sufficient in the dining room. It depends largely on the size of the rooms and how many people want to read, or the size of the table. The size oil or gas lamps you are now using will give you some idea of what you ought to have. Be sure, however, to figure full, because you do not want to be without light during the long Winter nights, and you may later find use for more lights than you figure on now. Remember, also, that it is better not to have to give your battery a full charge more than twice a week.

If it will be convenient for you, and will not be much extra expense for power, to run your generator whenever you need electricity, it would cost you less to buy a plant with a small battery

capacity, and then do most of your lighting and other electrical work direct from your generator or with the generator and battery working together. The descriptions of the capacities of our plants as shown on pages 36 to 42 will enable you to figure exactly what you could do with each one.

## Wiring and Fixtures

Your house may already be wired, in which case it is only necessary to purchase the fixtures you desire (such as drop cords, chandeliers, wall brackets). These fixtures contain the sockets into which to screw your lamps. A full line of latest designs in high grade fixtures are shown in our Catalog of Electric, Gas and Combination Fixtures, which will be sent you on request.

If your house is not wired, on receipt of the information called for on the enclosed information blank, we will furnish you with an itemized estimate of the necessary wire and accessories.

## Bear These Points in Mind

Bear in mind that it is not the number of lights you wish to install that determines the size plant you need, but the number of watts consumed by the lights that will be burning every day and the length of time they will be burning. Consider also how often it will be convenient to charge the battery if you will do all your lighting from the battery. Figure that it should not be given a full charge oftener than twice a week.

In the descriptions of our plants we give not only the number of lights each will carry, but also the electrical appliances, such as fans, vacuum cleaners, electric irons, motors and motor driven machines, that can be run, and their sizes. The table in next column shows what electric motors can do for you. The sizes given are for machines of ordinary size only.

Bear in mind, if you are comparing plants, that in comparing amperage and the number of watts you must know whether the battery alone is figured, or both the battery and generator. And you cannot compare the capacities of different plants in lights unless you know how long the plants will light the lights, and again whether the battery alone is figured, or both battery and generator together.

Our descriptions give you length of time, as well as all other figures, and separately for the battery and for the generator. Be sure you get this from others, if you want to make comparisons. Note that we give eight-hour ratings on our batteries, not the so-

called intermittent rating which makes the capacity appear greater.

## The Uses of Electric Motors

### For the Home.

Machine to Be Driven	Horse-Power	Watts
Washing Machine....	$\frac{1}{8}$ - $\frac{1}{4}$	150-300
Vacuum Cleaner.....	$\frac{1}{8}$	150
Sewing Machine.....	$\frac{1}{30}$	60
Buffer and Grinder....	$\frac{1}{20}$ - $\frac{1}{10}$	80-125
Coffee Mill.....	$\frac{1}{8}$ - $\frac{1}{4}$	150-300
Meat Chopper.....	$\frac{1}{4}$	300
Bread Mixer.....	$\frac{1}{4}$	300
Vegetable Peeler....	$\frac{1}{4}$	300
Cream Separator (300 quarts hour).....	$\frac{1}{8}$ - $\frac{1}{6}$	150-200
Churn .....	$\frac{1}{8}$ - $\frac{1}{6}$	150-200
Ice Cream Freezer...	$\frac{1}{8}$ - $\frac{1}{4}$	150-300
Pump Jack.....	$\frac{1}{2}$ - $\frac{3}{4}$	600-900

### For the Dairy.

Machine to Be Driven	Horse-Power	Watts
Milker (2 cows).....	$\frac{1}{10}$	125
Cream Separator (300 quarts hour).....	$\frac{1}{8}$ - $\frac{1}{6}$	150-200
Churn .....	$\frac{1}{8}$ - $\frac{1}{6}$	150-200
Ice Cream Freezer...	$\frac{1}{8}$ - $\frac{1}{4}$	150-300

### For the Farm.

Machine to Be Driven	Horse-Power	Watts
Grindstone .....	$\frac{1}{4}$ - $\frac{1}{2}$	300-600
Pump Jack.....	$\frac{1}{2}$ - $\frac{3}{4}$	600-900
Fanning Mill.....	$\frac{1}{2}$	600
Bone and Vegetable Cutter .....	$\frac{1}{4}$ - $\frac{1}{2}$	300-600
Grain Grader and Separator .....	$\frac{1}{4}$ - $\frac{1}{2}$	300-600
Corn Sheller, Two-Hole, Hand Feed..	$\frac{1}{2}$	600

## Our Plants Come Complete

Remember, our prices include everything to make the plant complete. In addition to the actual equipment of generator, battery and switchboard, we supply screws, bolts, cleats, leather belt, hydrometer (for testing battery cells), four extra fuses (safety plugs), Mazda lamps, can of generator oil, the necessary wire to make the switchboard and battery connections and other incidentals, as shown on pages 36 to 42.

Notice that with each plant we supply a certain number of lamps. When writing your order be sure to tell us the number of lamps of the various sizes you want to make up the total furnished with your plant, otherwise we will send lamps which we believe will best meet your requirements.

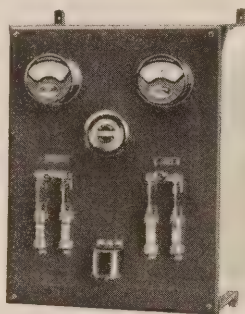
We furnish enough wire to connect generator with switchboard and switchboard with battery, provided the generator and the battery are not more than 15 feet from the switchboard. This distance is not measured in a straight line, but down the wall and across to the generator, as shown in the illustrations on the opposite page. If your distances will be greater, order additional wire. The proper size wire is given in the descriptions. Ask us any question that may occur to you about lighting plants and we will gladly explain anything you wish, estimate for you and advise you to the best of our expert judgment.



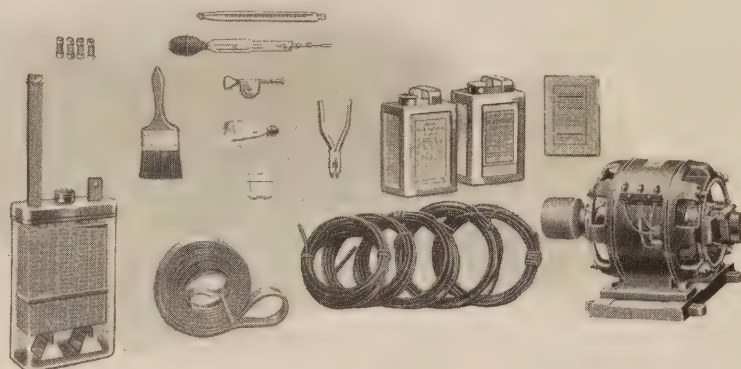
# Style No. 204—Pasted Plate Battery

Battery in Sealed Glass Jars.

Besides the material shown in the picture below we furnish fifteen more cells of battery, a number of lamps, screws, bolts and cleats. For details see Equipment Included, below.



This plant is suitable for a home of 6 rooms or less.



Make Your Own Terms. See Page 2.

## Capacity of Plant

The battery alone, when fully charged, has a capacity of 1,696 watt-hours at the rate of 212 watts for 8 hours, and will supply current for 32-volt Mazda lamps as shown in the table below:

### Equipment Included

The list of material below shows that we include everything that will be necessary in setting up, operating and caring for the lighting plant as a unit.

When you compare our plant with others, take these very necessary extras into consideration and you will find that the saving in buying one of our plants is even greater than is at first apparent.

We furnish the plant complete to deliver current to the light wires and the lamps or bulbs to put in your fixtures.

One 42-volt 13-ampere 546-watt shunt wound generator with sliding base. Pulley, 3½ inches in diameter by 2½-inch face. Speed, 1,800 revolutions per minute. Floor space, 13x15 inches.

One 53-ampere hour sixteen-cell 32-volt Willard pasted plate sealed glass jar battery. Five plates in each cell, each plate 5¼x7 inches. Battery charged before being shipped. With rack requires space 72 inches long by 17 inches wide by 55½ inches high. Rack not furnished.

One switchboard, complete, designed for this plant. Screws, bolts and cleats necessary to set up the plant.

One endless leather belt, 1½ inches wide by 14 feet long.

One 6-inch pliers.

One syringe hydrometer.

One speed indicator.

One thermometer.

Four extra fuses.

Fifteen 32-volt Type B Mazda clear glass lamps.

One quart can of generator oil.

One ½-gallon can of black asphaltum paint.

One paint brush.

One set of plans for building the battery rack.

Thirty feet (two pieces, each 15 feet) of No. 12 wire, to connect generator terminals G+ and G- to switchboard.

Fifteen feet of No. 14 wire to connect generator terminal GF to switchboard.

Thirty feet (two pieces, each 15 feet) of No. 12 wire, to connect positive and negative terminals to switchboard.

18-CANDLE POWER 20-WATT LAMPS.			or	8-CANDLE POWER 10-WATT LAMPS.		
No. of Lamps		No. of Hours		No. of Lamps		No. of Hours
1	for	86	}	1	for	172
2	"	43		2	"	86
4	"	21		4	"	43
8	"	10		8	"	21
10	"	8		21	"	8
22	"	3		44	"	3

If you know about how many 10 or 20-watt lamps you will burn every day, divide the corresponding number of hours here given by the number of hours you would use the lamps every night. This will tell you how many nights the battery will furnish light on one full charge.

### What This Plant Will Do

This is an ideal plant for a small home or where the average number of lights used is small. It will light houses up to six rooms. It will operate electric fans, suction (vacuum) cleaners and motor driven appliances up to ¼ horse-power.

If your total lighting requirements average four 15-watt 12-candle power lamps (or three 20-watt 18-candle power lamps) for four hours a day this plant will give you light for a week on one full charge of the battery.

The generator alone has a capacity of twenty-one 20-watt 18-candle power lamps or twenty-eight 15-watt lamps.

The battery alone will light four 20-watt lamps for three hours daily or three 20-watt lamps four hours daily if you give the battery one full charge per week, or twice this number of lamps if you charge twice a week.

**269A9844½**—Electric plant, complete as described above, backed by our guarantee of perfect satisfaction or your money back. Battery shipped from Cleveland, Ohio. Shipping weight, about 480 pounds. Balance of plant shipped from Chicago. Shpg. wt., about 270 lbs. Easy monthly payment price of complete plant..

**Complete \$212<sup>00</sup>**

**Make Your Own Terms. See Page 2**

About one and one-quarter horse-power required to operate this generator at full capacity.

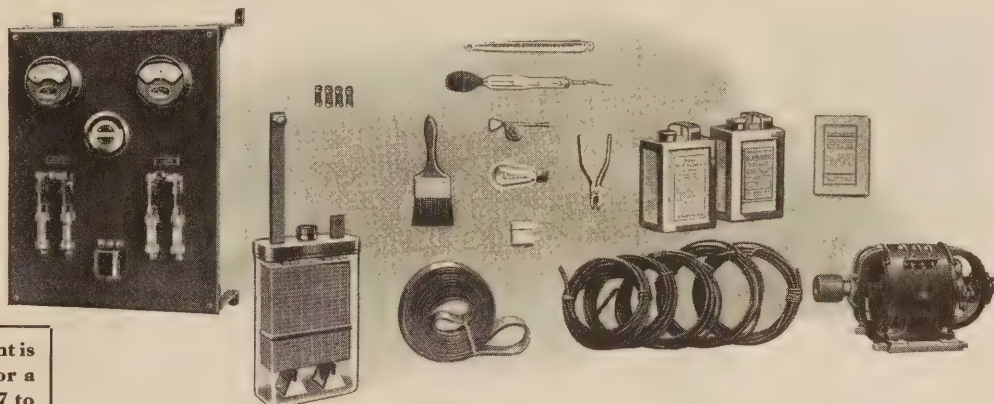
For prices on Gasoline Engines see pages 55 and 56.



# Style No. 208—Pasted Plate Battery

## Battery in Sealed Glass Jars

Besides the material shown in the picture below we furnish fifteen more cells of battery, a number of lamps, screws, bolts and cleats. For details see Equipment Included, below.



This Plant is Suitable for a Home of 7 to 8 Rooms.

### Capacity of Plant

The battery alone, when fully charged, has a capacity of 2,560 watt-hours at the rate of 320 watts for 8 hours, and will supply current for 32-volt Mazda lamps as shown in the table below:

18-CANDLE POWER 20-WATT LAMPS.			or	8-CANDLE POWER 10-WATT LAMPS.		
No. of Lamps		No. of Hours		No. of Lamps		No. of Hours
1	for	130		1	for	260
2	"	65		2	"	130
4	"	32		4	"	65
8	"	16		8	"	32
16	"	8		32	"	8
32	"	3		66	"	3

If you know about how many 10 or 20-watt lamps you will burn every day, divide the corresponding number of hours here given by the number of hours you would use the lamps every night. This will tell you how many nights the battery will furnish light on one full charge.

### What This Plant Will Do

Next to style No. 212 this is our most popular plant. We have found that where the electrical power requirements are limited to devices such as fans, suction (vacuum) cleaners and small motors up to ¼ horse-power, this plant meets the average needs. If your total lighting requirements average about four 20-watt 18-candle power lamps for four and one-half hours a day, this plant will give you light for a week on one full charge of the battery.

The generator alone has a capacity of twenty-one 20-watt 18-candle power lamps or twenty-eight 15-watt lamps.

The battery alone will light six 20-watt lamps for three hours daily or three 20-watt lamps six hours daily if you give the battery one full charge per week, or twice this number of lamps if you charge twice a week.

**269A9848½**—Electric Plant, complete as described above, backed by our guarantee of perfect satisfaction or your money back. Battery shipped from Cleveland, Ohio. Shipping weight, about 575 lbs. Balance of plant shipped from Chicago. Shipping weight, about 270 pounds.

**Complete** Easy monthly payment price of **\$239<sup>00</sup>**  
complete plant.....

Make Your Own Terms. See Page 2.

About one and one-quarter horse-power required to operate this generator at full capacity.

For Gasoline Engines see pages 55 and 56.

### Equipment Included

The list of material below shows that we include everything necessary in setting up, operating and caring for the lighting plant as a unit.

When you compare our plant with others, take these very necessary extras into consideration and you will find that the saving in buying one of our plants is even greater than is at first apparent.

We furnish the plant complete to deliver current to the light wires and lamps to put in your fixtures.

**One 42-volt 13-ampere 546-watt shunt wound generator** with sliding base. Pulley, ¾ inches in diameter by 2½-inch face. Speed, 1,800 revolutions per minute. Floor space, 13x15 inches.

**One 80-ampere-hour sixteen-cell 32-volt Willard pasted plate sealed glass jar battery.** Seven plates in each cell, each plate 5¼x7 inches. Battery charged before being shipped. With rack requires space 72 inches long by 17 inches wide by 55½ inches high. Rack not furnished.

**One switchboard complete** with instruments and switches for full capacity of this plant.

Screws, bolts and cleats necessary to set up the plant.

One 6-inch pliers.

One thermometer.

One speed indicator.

**One endless leather belt,** 1½ inches wide by 14 feet long.

One syringe hydrometer.

Four extra enclosed fuses.

**Twenty 32-volt Type B Mazda clear glass lamps.**

One quart can of generator oil.

One ½-gallon can of black asphaltum paint.

One paint brush.

One set of plans for building battery rack.

Thirty feet (two pieces, each 15 feet) of No. 12 rubber covered wire, to connect generator terminals G+ and G- to switchboard.

Fifteen feet of No. 14 wire, to connect generator terminal GF to switchboard.

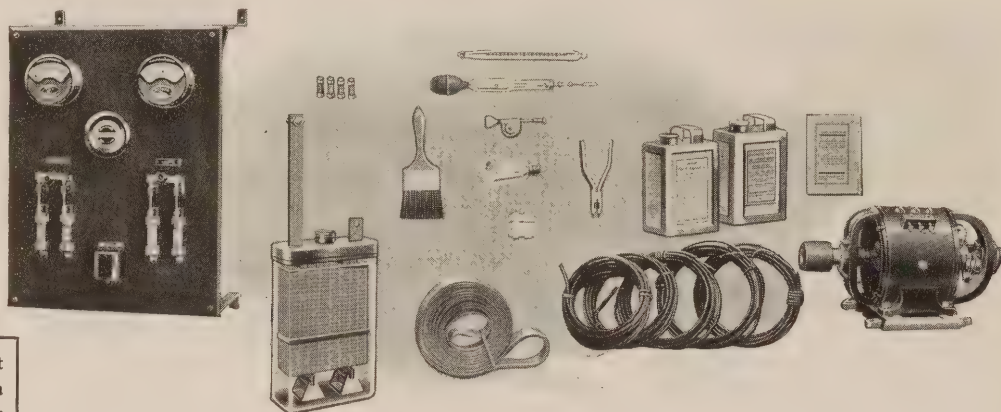
Thirty feet (two pieces, each 15 feet) of No. 10 wire, to connect positive and negative battery terminals to switchboard.



# Style No. 212—Pasted Plate Battery

## Battery in Sealed Glass Jars

Besides the materials shown in the picture below we furnish fifteen more cells of battery, a number of lamps, screws, bolts and cleats. For details see Equipment Included, below.



This plant suitable for a home of 8 or 9 rooms.

## Capacity of Plant

The battery alone, when fully charged, has a capacity of 3,424 watt-hours at the rate of 428 watts for 8 hours, and will supply current for 32-volt Mazda lamps, as shown in the table below:

18-CANDLE POWER 20-WATT LAMPS.			8-CANDLE POWER 10-WATT LAMPS.		
No. of Lamps		No. of Hours	No. of Lamps		No. of Hours
1	for	174	2	for	174
2	"	87	4	"	87
4	"	43	8	"	43
8	"	21	16	"	21
21	"	8	42	"	8
43	"	3	87	"	3

If you know about how many 10 or 20-watt lamps you will burn every day, divide the corresponding number of hours here given by the number of hours you would use the lamps every night. This will tell you how many nights the battery will furnish light on one full charge.

## Equipment Included

The list of material below shows that we include everything necessary in setting up, operating and caring for the lighting plant as a unit.

When you compare our plant with others, take these very necessary extras into consideration and you will find that the saving in buying one of our plants is even greater than is at first apparent.

We furnish the plant complete to deliver current to the light wires and the lamps or bulbs to put into the fixtures.

One 42-volt 20-ampere 840-watt shunt wound generator with sliding base. Pulley, 3 inches in diameter by 2½-inch face. Speed, 1,700 revolutions per minute. Floor space, 14x20 inches.

One 107-ampere hour sixteen-cell 32-volt Willard pasted plate sealed glass jar battery. Nine plates in each cell, each plate 5¼x7 inches. Battery charged before being shipped. With rack requires space 72 inches long by 17 inches wide by 55½ inches high. Rack not furnished.

One switchboard, complete with all the necessary switches, meters and instruments for full capacity of this plant.

Screws, bolts and cleats necessary to secure generator, switchboard and wires to floor and wall.

One thermometer.

One 6-inch pliers.

One endless leather belt, 2 inches wide by 14 feet long.

One syringe hydrometer.

One speed indicator.

Four extra enclosed fuses.

Thirty 32-volt Type B Mazda clear glass lamps.

One paint brush.

One set of plans for building battery rack.

One quart can generator oil.

One ½-gallon can of black asphaltum paint.

Thirty feet (two pieces, each 15 feet) of No. 10 wire to connect generator terminals G+ and G- to switchboard.

Fifteen feet of No. 14 wire to connect generator terminal GF to switchboard.

Thirty feet (two pieces, each 15 feet) of No. 10 wire to connect positive and negative battery terminals to switchboard.

## What This Plant Will Do

This plant we find fulfills the requirements of about three-fourths of the requests for estimates which we receive. It will operate an electric iron, electric fans, suction (vacuum) cleaners, electric water supply outfits (page 5), and motor driven appliances up to ¼ horse-power. When the generator is running you can use a ½ horse-power motor.

If your total lighting requirements average six 20-watt 18-candle power lamps for four hours a day, this plant will give you light for a week on one full charge of the battery. This is probably a great deal more candle power than you are using at the present time, if you are using kerosene lamps and lanterns, but remember, that besides having safer, cleaner and more convenient light, you are to have more light.

The generator alone has a capacity of thirty-two 20-watt 18-candle power lamps, or forty-three 15-watt 12-candle power lamps.

The battery alone will light eight 20-watt 18-candle power lamps for three hours daily, or three 20-watt 18-candle power lamps for eight hours daily if you give the battery one full charge per week, or twice this number of lamps if you charge twice a week.

269A9842½—Electric Plant, complete as described above, backed by our guarantee of perfect satisfaction or your money back. Battery shipped from Cleveland, Ohio. Shipping weight, about 670 pounds. Balance of plant shipped from Chicago. Shipping weight, about 270 pounds.

**Complete** Easy monthly payment price of complete plant..... **\$298<sup>50</sup>**

Make Your Own Terms. See Page 2.

About two horse-power required to operate this generator at full capacity.

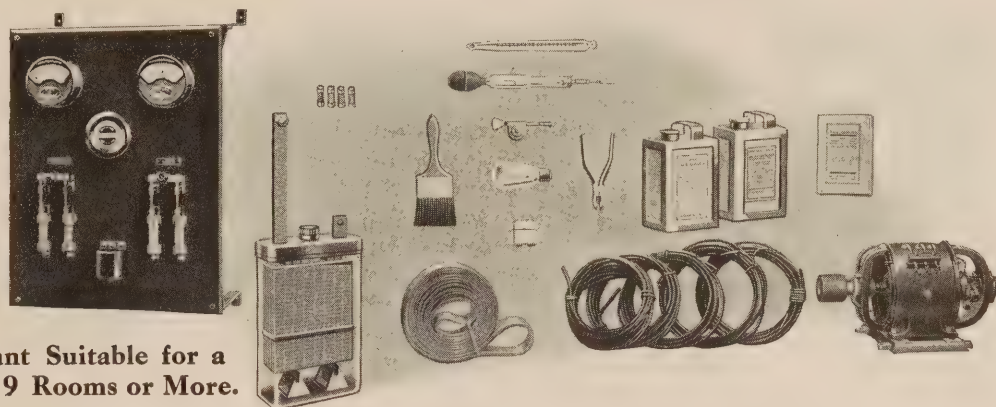
For Gasoline Engines see pages 55 and 56.



# Style No. 215—Pasted Plate Battery

## Battery in Sealed Glass Jars

Besides the material shown in the picture below we furnish fifteen more cells of battery, a number of lamps, screws, bolts and cleats. For details see Equipment Included, below.



**This Plant Suitable for a Home of 9 Rooms or More.**

**Make Your Own Terms. See Page 2**

## Capacity of Plant

The battery alone, when fully charged, has a capacity of 4,288 watt-hours at the rate of 536 watts for 8 hours and will supply current for 32-volt Mazda lamps as shown in the table below:

### Equipment Included

The list of material below shows that we include everything necessary for setting up, operating and caring for the lighting plant as a unit.

When you compare our plant with others, take these very necessary extras into consideration and you will find that the saving in buying one of our plants is even greater than is at first apparent.

We furnish the plant complete to deliver current to the light wires and the lamps or bulbs to put in the fixtures.

**One 42-volt 27½-ampere 1155-watt shunt wound generator** with sliding base. Pulley, 4 inches in diameter by 3-inch face. Speed, 1,700 revolutions per minute. Floor space, 14x24 inches.

**One 134-ampere hour sixteen-cell 32-volt Willard pasted plate sealed glass jar battery.** Eleven plates in each cell, each plate 5¼x7 inches. Battery charged before being shipped. With rack requires space 72 inches long by 17 inches wide by 55½ inches high. Rack not furnished.

Extra bolt connectors and separators.

**One switchboard,** complete with all necessary switches, meters, instruments and fuses for full capacity of this plant.

Screws, bolts and cleats necessary to secure generator, switchboard and wires to floor and wall.

One 6-inch pliers.

One thermometer.

One speed indicator.

**One endless leather belt,** 2½ inches wide by 14 feet long.

One syringe hydrometer.

Four extra enclosed fuses.

**Forty 32-volt Type B Mazda clear glass lamps.**

One quart can generator oil.

One ½-gallon can black asphaltum paint.

One paint brush.

One set of plans for building battery rack.

Thirty feet (two pieces, each 15 feet) of No. 8 rubber covered wire, to connect generator terminals G+ and G- to switchboard.

Fifteen feet of No. 14 wire to connect generator terminal GF to switchboard.

Thirty feet (two pieces, each 15 feet) of No. 6 rubber covered wire to connect positive and negative battery terminals to switchboard.

18-CANDLE POWER 20-WATT LAMPS.			or	8-CANDLE POWER 10-WATT LAMPS.		
No. of Lamps		No. of Hours		No. of Lamps		No. of Hours
1	for	222	}	2	for	222
2	"	111		4	"	111
4	"	55		8	"	55
8	"	27		16	"	27
27	"	8		55	"	8
55	"	3		110	"	3

If you know about how many 10 or 20-watt lamps you will use every day, divide the corresponding number of hours here given by the number of hours you would use the lamps every night. This will tell you how many nights the battery will furnish light on one full charge.

## What This Plant Will Do

This plant is designed for those who want a plant larger than the average. It will light houses up to fourteen rooms and the usual out-buildings. It will operate an electric iron, electric fans, suction (vacuum) cleaners, electric water supply outfits (page 5) and motor driven appliances up to ½ horse power.

If your total lighting requirements average about six 20-watt 18-candle power lamps for five hours a day, this plant will give you light for a week on one full charge of the battery.

The generator alone has a capacity of forty-four 20-watt 18-candle power lamps, or fifty-eight 15-watt 12-candle power lamps.

The battery alone will light ten 20-watt 18-candle power lamps for three hours daily or five 20-watt 18-candle power lamps six hours daily, if you give the battery one full charge per week, or twice this number of lamps if you charge twice a week.

**269A9845½**—Electric Plant, complete as described above, backed by our guarantee of perfect satisfaction or your money back. Battery shipped from Cleveland, Ohio. Shipping weight, about 760 pounds. Balance of plant shipped from Chicago. Shpg. wt., about 300 lbs. Easy monthly payment price of complete plant.. **\$342<sup>60</sup>**

**Complete**

**Make Your Own Terms. See Page 2.**

About two and one-half horse-power required to operate this generator at full capacity.

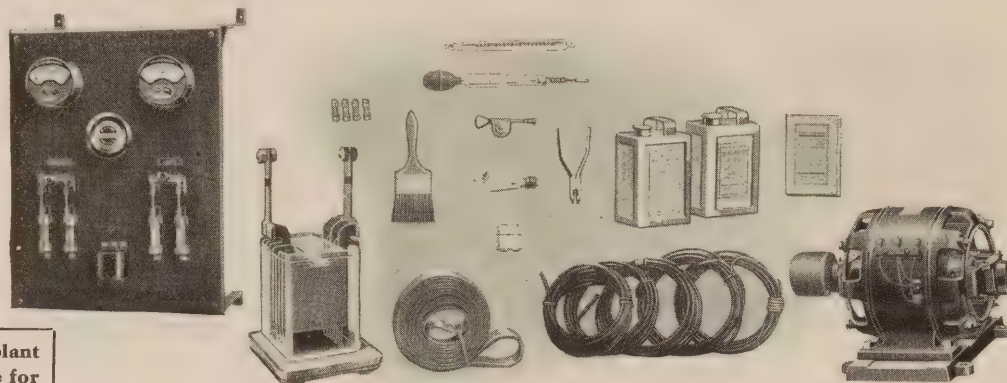
For Gasoline Engines see pages 55 and 56.



# Style No. 304—Plante Battery

## Battery in Open Glass Jars

Besides the material shown below we furnish fifteen more cells of battery, a number of lamps, screws, bolts and cleats. For details see Equipment Included, below.



This plant is suitable for a home of 6 rooms or less.

## Capacity of Plant

The battery alone, when fully charged, has a capacity of 1,440 watt-hours at the rate of 180 watts for 8 hours, and will supply current for 32-volt Mazda lamps as shown in the table below:

18-CANDLE POWER 20-WATT LAMPS.		}	OR	8-CANDLE POWER 10-WATT LAMPS.	
No. of Lamps	No. of Hours			No. of Lamps	No. of Hours
1	for 74			2	for 74
2	" 37			4	" 37
4	" 18			8	" 18
8	" 9			16	" 9
9	" 8			18	" 8
18	" 3			37	" 3

If you know about how many 10 or 20-watt lamps you will burn every day, divide the corresponding number of hours here given by the number of hours you would use the lamps every night. This will tell you how many nights the battery will furnish light on one full charge.

## What This Plant Will Do

This plant has almost the same capacity as our Style No. 204, but the battery is of smaller capacity and is of the more expensive Plante type, requiring an initial charge before the battery can be used. This plant will operate electric fans, suction (vacuum) cleaners and motor driven appliances, up to ¼ horse-power.

If your total lighting requirements average four 15-watt 12-candle power lamps (or three 20-watt 18-candle power lamps) for three and one-half hours a day, this plant will give you light for a week on one full charge of the battery.

The generator alone has a capacity of twenty-one 20-watt 18-candle power lamps or twenty-eight 15-watt lamps.

The battery alone will light five 20-watt 18-candle power lamps for two hours daily or two 20-watt 18-candle power lamps five hours daily, if you give the battery one full charge per week, or twice this number of lamps if you charge twice a week.

**269A9854½**—Electric Plant, complete as described above, backed by our guarantee of perfect satisfaction or your money back. Battery shipped from Cleveland, Ohio. Shipping weight, about 1,280 pounds. Balance of plant shipped from Chicago. Shpg. wt., about 270 lbs. Easy monthly payment price of plant complete...

**Complete \$255<sup>75</sup>**

**Make Your Own Terms. See Page 2.**

About one and one-quarter horse-power required to operate this generator at full capacity.

For Gasoline Engines see pages 55 and 56.

The electrolyte (liquid for the jars) is shipped in carboys. We will refund the current price at time of shipment for the carboy returned in good condition, freight prepaid, and will advise you of the value when plant is shipped. This plant includes one carboy and one jug. There is no refund on the jug. It will be found useful for storing distilled or rain water.

## Equipment Included

The list of material below shows that we include everything necessary in setting up, operating and caring for the lighting plant as a unit.

When you compare our plant with others, take these very necessary extras into consideration and you will find that the saving in buying one of our plants is even greater than is at first apparent.

We furnish the plant complete to deliver current to the light wires and the lamps or bulbs to furnish light.

**One 42-volt 13-ampere 546-watt shunt wound generator** with sliding base, and pulley 3½ inches in diameter by 2¼-inch face. Speed, 1,800 revolutions per minute. Floor space, 13x15 inches.

**One 45-ampere hour sixteen-cell 32-volt Willard Plante plate battery.** Seven plates per cell, each plate 5x5 inches. With rack requires space 72 inches long by 17 inches wide by 55½ inches high. Rack not furnished.

Glass sand trays and one extra glass jar.

Extra wood separators and bolt connectors.

**One switchboard**, complete, designed for this plant.

Screws, bolts and cleats necessary to set up plant.

**One endless leather belt**, 1½ inches wide by 14 feet long.

One 6-inch pliers.

One syringe hydrometer.

One speed indicator.

One thermometer.

Four extra fuses.

**Fifteen 32-volt Type B Mazda clear glass lamps.**

One quart can generator oil.

One ½-gallon can black asphaltum paint.

One paint brush.

One set of plans for building the battery rack.

Thirty feet (two pieces, each 15 feet) of No. 12 wire, to connect generator terminals G+ and G- to switchboard.

Fifteen feet of No. 14 wire, to connect generator terminal GF to switchboard.

Thirty feet (two pieces, each 15 feet) of No. 12 wire, to connect positive and negative terminals to switchboard.



# Style No. 309—Plante Battery

## Battery in Open Glass Jars

Besides the materials shown in the picture below we furnish fifteen more cells of battery, a number of lamps, screws, bolts and cleats. For details see Equipment Included, below.



This plant is suitable for a home of 7 or 8 rooms.

## Capacity of Plant

The battery alone, when fully charged, has a capacity of 2,560 watt-hours at the rate of 320 watts for 8 hours, and will supply current for 32-volt Mazda lamps as shown in the table below:

18 CANDLE-POWER 20-WATT LAMPS.			or	8 CANDLE-POWER 10-WATT LAMPS.		
No. of Lamps		No. of Hours		No. of Lamps		No. of Hours
1	for	131		2	for	131
2	"	65		4	"	65
4	"	32		8	"	32
8	"	16		16	"	16
16	"	8		32	"	8
33	"	3		66	"	3

If you know about how many 10 or 20-watt lamps you will burn every day, divide the corresponding number of hours here given by the number of hours you would use the lamps every night. This will tell you how many nights the battery will furnish light on one full charge.

## What This Plant Will Do

This plant is the most popular of our plants equipped with the more expensive Plante type of battery. It will light a house of six or seven rooms and furnish light for outbuildings under the average requirements. It will operate an electric iron, electric fans, suction (vacuum) cleaners, electric water supply outfits (page 5) and motor driven appliances up to ¼ horse-power, or ½ horse-power with generator running.

If your total lighting requirements average about four 20-watt 18 candle-power lamps for four and one-half hours a day, this plant will give you light for a week on one full charge of the battery.

The generator alone has a capacity of thirty-two 20-watt 18 candle-power lamps or forty-three 15-watt 12 candle-power lamps.

The battery alone will light six 20-watt 18 candle-power lamps for three hours daily or three 20-watt 18 candle-power lamps for six hours daily, if you give the battery one full charge per week, or twice this number of lamps if you charge twice a week.

**269A9859½**—Electric Plant, complete as described above, backed by our guarantee of perfect satisfaction or your money back. Battery shipped from Cleveland, Ohio. Shipping weight, about 1,800 pounds. Balance of plant shipped from Chicago. Shpg. wt., about 270 lbs. Easy monthly payment price of complete plant.. **\$359<sup>30</sup>**

**Make Your Own Terms. See Page 2.**

About two horse-power required to operate this generator at full capacity.

For Gasoline Engines see pages 55 and 56.

The electrolyte (liquid for the jars) is shipped in carboys. We will refund the current price at time of shipment for each carboy returned to us in good condition, freight prepaid, and will advise you of value when plant is shipped. This plant includes two carboys and one jug. There is no refund for the jug. It may be used for storing distilled or rain water.

## Equipment Included

The list of materials below shows that we include everything that will be necessary in setting up, operating and caring for the lighting plant as a unit.

When you compare our plant with others, take these very necessary extras into consideration and you will find that the saving in buying one of our plants is even greater than is at first apparent.

We furnish the plant complete to deliver current to the light wires and lamps or bulbs to put in your fixtures.

**One 42-volt 20-ampere 840-watt shunt wound generator** with sliding base. Pulley, 3 inches in diameter by 2½-inch face. Speed, 1,700 revolutions per minute. Floor space; 14x20 inches.

**One 80-ampere hour sixteen-cell 32-volt Willard Plante plate battery, complete.** Five plates per cell, each plate 7¾x7¾ inches. With rack requires space 96 inches long by 17 inches wide by 68½ inches high. Rack not furnished. Glass sand trays and one extra glass jar. Extra separators and bolt connectors.

**One switchboard,** complete with all the necessary switches, meters and instruments for full capacity of this plant.

Screws, bolts and cleats necessary to secure the generator, switchboard and wires to the floor and wall.

One 6-inch pliers.

One thermometer.

**One endless leather belt,** 2 inches wide and 14 feet long.

One speed indicator.

One syringe hydrometer.

Four extra enclosed fuses.

**Twenty-five 32-volt Type B Mazda Clear Glass Lamps.**

One quart can generator oil.

One ½-gallon can black asphaltum paint.

One paint brush.

One set of plans for building battery rack.

Thirty feet (two pieces, each 15 feet) of No. 10 wire, to connect generator terminals G+ and G- to switchboard.

Fifteen feet of No. 14 wire, to connect generator terminal GF to switchboard.

Thirty feet (two pieces, each 15 feet) of No. 10 wire, to connect positive and negative battery terminals to switchboard.



# Style No. 314—Plante Battery

## Battery in Open Glass Jars

Besides the material shown in the picture below we furnish fifteen more cells of battery, a number of lamps, screws, bolts and cleats. For details see Equipment Included, below.



This plant is suitable for a home of 8 or 9 rooms.

## Capacity of Plant

The battery alone, when fully charged, has a capacity of 3,840 watt-hours at the rate of 480 watts for 8 hours and will supply current for 32-volt Mazda lamps, as shown in the table below:

### Equipment Included

The list of material below shows that we include everything necessary in setting up, operating and caring for the lighting plant as a unit.

When you compare our plant with others, take these very necessary extras into consideration and you will find that the saving in buying one of our plants is even greater than is at first apparent.

We furnish the plant complete to deliver current to the light wires and lamps or bulbs to furnish light.

One 42-volt 27½-ampere 1,155-watt shunt wound generator with sliding base. Pulley, 4 inches in diameter by 3-inch face. Speed, 1,700 revolutions per minute. Floor space, 14x24 inches.

One 120-ampere hour sixteen-cell 32-volt Willard Plante plate battery, complete. Seven plates per cell, each plate 7¾x7¾ inches. With rack requires space 96 inches long by 17 inches wide by 68½ inches high. Rack not furnished.

Glass sand trays and one extra glass jar. Extra bolt connectors and separators.

One switchboard, complete with all the necessary switches, meters, instruments and fuses for full capacity of this plant.

Screws, bolts and cleats necessary to secure the generator, switchboard and wires to the floor and wall.

One speed indicator.

One 6-inch pliers.

One thermometer.

One endless leather belt, 2½ inches wide by 14 feet long.

One syringe hydrometer.

Four extra enclosed fuses.

Forty 32-volt Type B Mazda clear glass lamps.

One quart can generator oil.

One ½-gallon can black asphaltum paint.

One paint brush.

One set of plans for building battery rack.

Thirty feet (two pieces, each 15 feet) of No. 8 wire, to connect generator terminals G+ and C- to switchboard.

Fifteen feet No. 14 wire, to connect generator terminal GF to switchboard.

Thirty feet (two pieces, each 15 feet) of No. 8 rubber covered wire, to connect positive and negative battery terminals to switchboard.

18-CANDLE POWER 20-WATT LAMPS.			or	8-CANDLE POWER 10-WATT LAMPS.		
No. of Lamps		No. of Hours		No. of Lamps		No. of Hours
1	for	196	}	2	for	196
2	"	98		4	"	98
4	"	49		8	"	49
8	"	24		16	"	24
24	"	8		49	"	8
49	"	3		99	"	3

If you know about how many 10 or 20-watt lamps you will burn every day, divide the corresponding number of hours here given by the number of hours you would use the lamps every night. This will tell you how many nights the battery will furnish light on one full charge. The battery alone will also operate a suction (vacuum) cleaner, an electric iron, electric fans, and motors and motor driven machines up to ½ horse-power.

## What This Plant Will Do

This plant will light houses up to twelve rooms with the usual barns and outbuildings. It will operate an electric iron, electric fans, suction (vacuum) cleaners, electric water supply outfits (page 5) and motor driven appliances up to ½ horse-power.

The generator alone has a capacity of fifty-eight 15-watt 12-candle power lamps. The battery alone will light nine 20-watt 18-candle power lamps for three hours daily or five 20-watt 18-candle power lamps five and one-half hours daily, giving the battery one full charge per week, or twice the number of lamps by charging the battery twice per week.

269A9864½—Electric Plant, complete as described above, backed by our guarantee of perfect satisfaction or your money back. Battery shipped from Cleveland, Ohio. Shipping weight, about 2,250 pounds. Balance of plant shipped from Chicago. Shpg.

**Complete** wt., about 300 lbs. Easy monthly payment price of complete plant.. **\$464<sup>00</sup>**

**Make Your Own Terms. See Page 2.**

About two and one-half horse-power required to operate this generator at full capacity.

For Gasoline Engines see pages 55 and 56.

The electrolyte (liquid for the jars) is shipped in carboys. We will refund the current price at time of shipment for each carboy returned to us in good condition, freight prepaid, and will advise you of value when plant is shipped. This plant includes three carboys.



# Lighting Fixtures

## Comprehensive Sets for Homes of Various Types and Sizes

Electric Lighting Fixtures are sold on the easy monthly payment plan only when sold with other plants—heating, plumbing, electric lighting or water supply, shown in this catalog.

If you wish to order one of these sets alone, we will gladly quote you our cash price.

## Some Facts and Explanations About Our Lighting Fixtures

### Quality

Our fixtures are approved by THE UNDERWRITERS' LABORATORIES, INC., under the direction of THE NATIONAL BOARD OF FIRE UNDERWRITERS, and bear their stamp of approval in the form of their serial numbered label. Also, the electrical material, sundries, etc., are approved by this BOARD. This approval is the strongest guarantee of quality obtainable.

All of our fixtures are manufactured by experienced workmen and no detail in even the lowest priced fixture has been slighted.

We do not sell fixtures made of steel, brass plated, because they soon discolor and rust. Our fixtures are made of GENUINE BRASS of extra heavy gauge (thickness). They are exceedingly well finished and thoroughly coated with high grade lacquer as a preservative. This insures durability.

They are carefully constructed and all connecting joints and threads are inspected, insuring accuracy of fit and strength.

### Finishes

We quote the majority of our fixtures in brush (satin) brass finish. Where the ceiling canopy, stem or body is ornamented or embossed, this ornamentation or embossing

is retouched with black in the hollows to bring out the high lights and richness of the ornamentation. Brush (satin) brass or brush brass and black are the most satisfactory and practical ways to finish brass fixtures in a great majority of patterns.

All of these fixtures are fully equipped with the exception of the electric bulbs, completely assembled and wired.

### House Wiring

It is hardly possible to quote prices on house wiring without knowing the size of the rooms, height of ceilings and general plan of the building. If you will be sure to answer the questions and make the sketches which we ask for on the information blanks enclosed, our experts will make a study of your plans and estimate the amount and cost of material necessary to wire your house ready to hang the fixtures.

There are several systems of wiring. The knob and tube system is the most economical, but if you live in a town which has special city ordinances calling for the conduit system, or any other, send us a copy of the ordinances, if possible, and we will gladly quote prices to meet the requirements.

The sets which we illustrate on the following pages have been selected with considerable thought and care. The designs and patterns are grouped to make pleasing and harmonious combinations.

If you think you want something different, write for our special Gas and Electric Fixture Catalog, which will be sent postpaid. This catalog shows a complete line of lighting fixtures and electrical house-wiring material.





# Set No. 1 Easy Payment Price \$31.95

For Five-Room Bungalow



**Two Bedrooms and Bathroom.**

Three One-Light Chain Pendants. Length, 36 inches. Genuine brass, brush brass finish. Five-inch frosted glass globe.



**Pantry.**

Four-Foot Drop Cord. Brass ceiling canopy with porcelain bushing. Key socket twist lamp cord.



**Dining Room.**

Three-Light Fancy Shower. Length to bottom of glassware, 30 inches. Genuine brass in brush brass and black finish. Frosted glass shades with crystal stripes.



**Kitchen.**

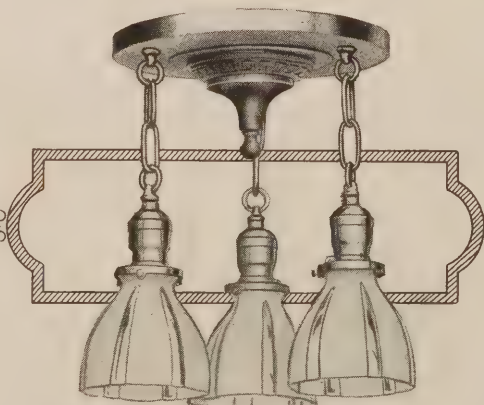
One-Light Pendant. Genuine brass, oxidized copper finish. Length, 36 inches. Frosted glass reflector.

**Basement.**  
Four-Foot Weatherproof Drop Cord. Porcelain rosette and porcelain key socket.



**Front Porch.**

Cast Iron Ceiling Band in dead black finish. Length over all, 7 1/4 inches. Six-inch frosted glass ball.



**Living Room.**

Three-Light Ceiling Shower. Length to bottom of glassware, 13 1/2 inches. Ten-inch pan and keyless sockets. Genuine brass in brush brass finish. Frosted glass shades with crystal ribs.



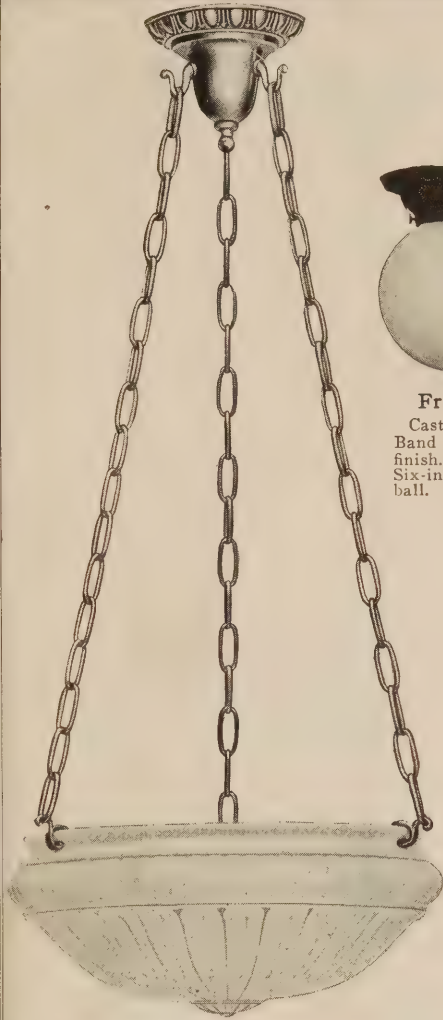
**Back Porch.**

Porcelain Ceiling Light with wire lamp guard and 40-watt clear Tungsten lamp.



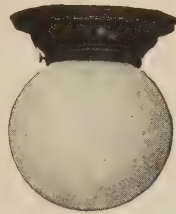
# Set No 2 Easy Payment Price \$50<sup>25</sup>

For Five-Room Bungalow



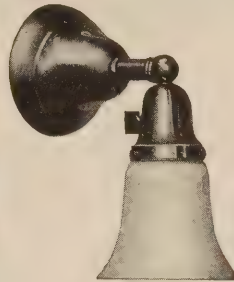
## Living Room.

Three - Light Fixture. Genuine brass in brush brass and black finish. Diameter of bowl, 15 inches. Satin finished bowl embossed in panel design.



## Front Porch.

Cast Iron Ceiling Band in dead black finish. Length, 7 1/4 in. Six-inch frosted glass ball.



## Fireplace.

Two Brackets. Genuine brass, brush brass finish.



## Hall.

One - Light 36 - Inch Pendant. Genuine brass, brush brass finish.



## Two Bedrooms.

One - Light 36 - Inch Pendant. Genuine brass in brush brass finish.



## Kitchen.

One - Light 36 - Inch Pendant. Genuine brass in oxidized copper finish.



## Bathroom.

One - Light 36 - Inch Pendant. Genuine brass in nickel finish.



## Dining Room.

Four - Light Shower. Genuine brass, brush brass and black finish. Length to bottom of glassware shades, 36 inches. Spread, 18 inches. Embossed bowl and shades in panel design with classic border.



## Basement.

Four - Foot Weather - proof Drop Cord, porcelain socket.



## Back Porch.

Porcelain Socket Ceiling Light with wire lamp guard.



## Pantry.

Four - Foot Drop Cord. Twisted cotton covered cord.



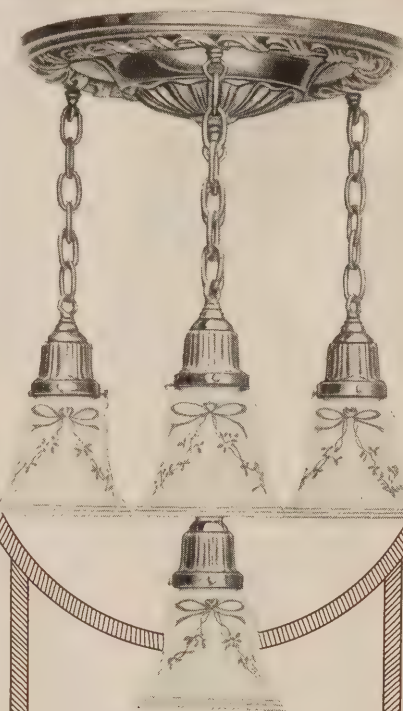
# Set No. 3 Easy Payment Price \$47.40

For Six-Room House



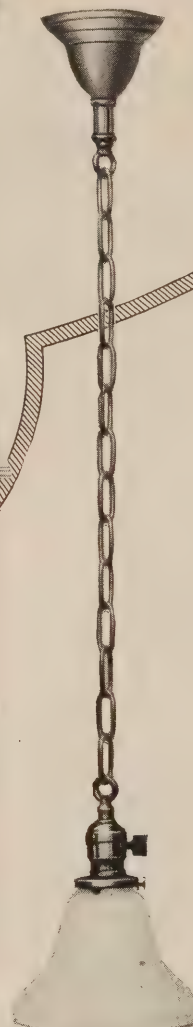
## Dining Room.

Three-Light Fixture. Genuine brass in brush brass finish. Length to bottom of bowl, 36 inches. Satin finished bowl with oak leaf design.



## Living Room.

Four-Light Ceiling Shower. Genuine brass in brush brass and black finish. Length to bottom of center shade, 22 inches. Keyless sockets. Frosted hand painted shades.



## Three Bedrooms, Upper Hall.

Four One-Light 36-Inch Pendants. Genuine brass brush brass finish. Frosted 7-inch glass reflector.



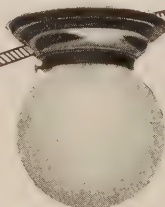
## Bathroom.

One-Light 36-Inch Pendant. Genuine brass in nickel finish. Frosted 7-inch glass reflector.



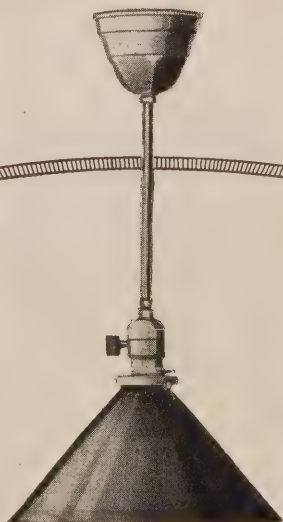
## Pantry.

Four-Foot Drop Cord. Brass canopy and key socket; twisted lamp cord.



## Front Porch.

Cast Iron Ceiling Band in dead black finish. Length, 7 1/4 inches. Six-inch frosted glass ball.



## Kitchen.

Genuine Brass Ceiling Pendant, oxidized copper finish. Length, 18 inches. Green 10-inch glass reflector, lined with white opal glass.



## Back Porch.

Porcelain Ceiling Light with wire lamp guard and 40-watt clear Tungsten lamp.



## Basement.

Four-Foot Weather-proof Drop Cord. Porcelain rosette and porcelain key socket.



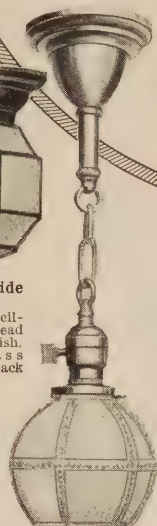
# Set No. 4 Easy Payment Price \$106<sup>15</sup>

## For Six-Room House



**Front and Side Porches.**

Cast Iron Ceiling Band, dead black finish. Frosted glass ball with black lines.



**Upper Hall.**

One - Light 36-Inch Pendant. Genuine brass in brush (satin) brass finish. Frosted glass globe.



**Lower Hall.**

One - Light 36-Inch Pendant. Genuine brass in brush (satin) brass finish. Art glass lantern.



**Bathroom.**

Two One-Light Brackets. Genuine brass, polished nickel finish.



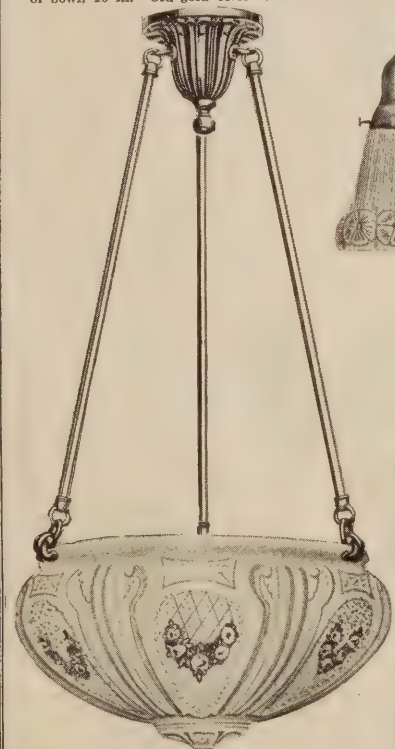
**Living Room.**

Three-Light Rope Semi-Indirect Fixture. Length to bottom of bowl, 36 inches. Genuine brass in brush (satin) brass and black finish. Diameter of bowl, 16 in. Old gold color cord and tassels.



**Dining Room.**

Five-Light Shower. Length to bottom of glass shades, 36 inches. Spread, 19 inches. Genuine brass in rich gilt and matte finish. Embossed satin finished 12-inch hand painted bowl and shades to match.



**Bedroom.**

One-Light Semi-Indirect Fixture. Genuine brass in brush (satin) brass and black finish. Length to bottom of bowl, 28 inches. Embossed 13½-inch hand painted bowl.

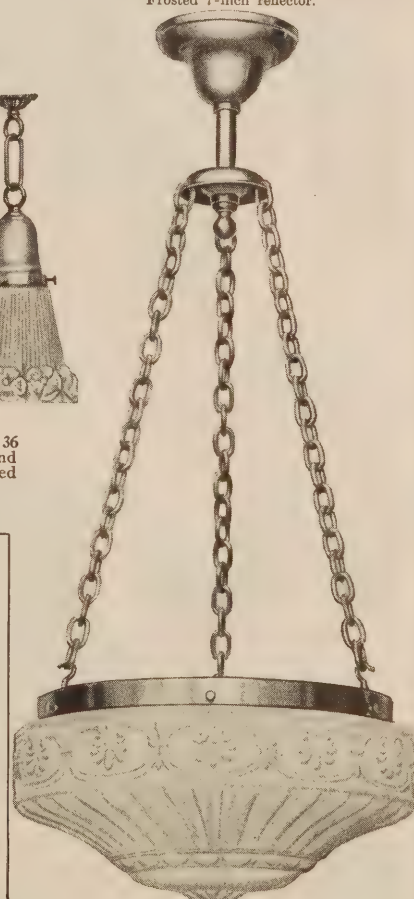


**Back Porch.**

Cast Iron Band in dead black finish. Length, 6¾ inches. Frosted 7-inch glass reflector.

Four-Foot Panty Drop Cord.

Four-Foot Basement Drop Cord.



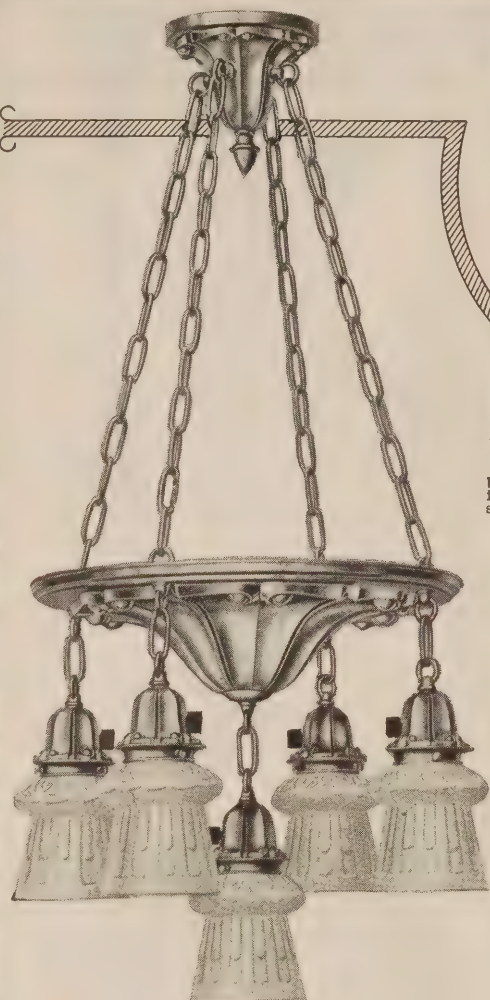
**Bedroom.**

One-Light Semi-Indirect Fixture. Genuine brass in brush (satin) brass finish. Embossed 14-inch satin finished bowl. Length to bottom of bowl, 30 inches.



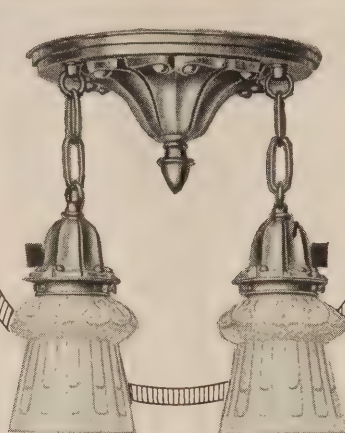
# Set No. 5 Easy Payment Price \$93.50

For Six-Room House



**Living Room.**

Five-Light Shower. Length to bottom of center light, 36 inches. Diameter of pan, 16 inches. Genuine brass in brush brass and black finish. Frosted glass shades.



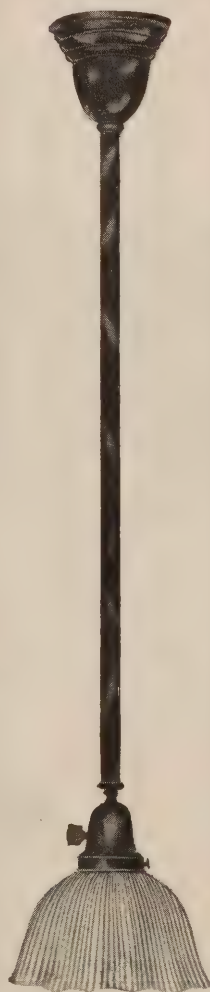
**Bedrooms.**

Three Two-Light Ceiling Fixtures. Length to bottom of glass shades, 12 inches. Genuine brass in brush brass and black finish. Frosted glass shades.



**Dining Room.**

Three-Light Shower. Length to bottom of glass shades, 36 inches. Diameter of pan, 14 inches. Genuine brass in brush brass and black finish. Frosted glass shades.



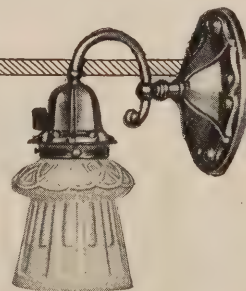
**Kitchen.**

One - Light 36-Inch Pendant. Genuine brass in oxidized copper finish. Six and three-fourths inch glass reflector.



**Hall.**

One - Light Ceiling Fixture. Length to bottom of globe, 11 inches. Genuine brass in brush brass and black finish. Frosted satin finished glass globe.



**Bathroom.**

Two One - Light Brackets. Genuine brass in brush brass and black finish. Frosted glass shade.



**Porch.**

Cast Iron Ceiling Band in dead black finish. Frosted glass ball with black lines.



**Basement.**

Four - Foot Weatherproof Drop Cord.



**Pantry.**

Four - Foot Cotton Covered Drop Cord.



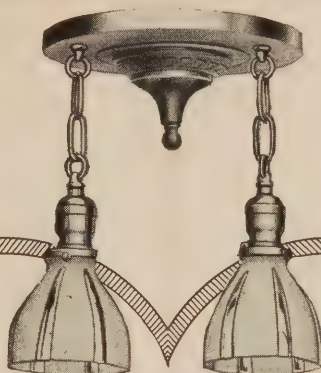
# Set No. 6 Easy Payment Price \$107<sup>75</sup>

## For Six-Room House



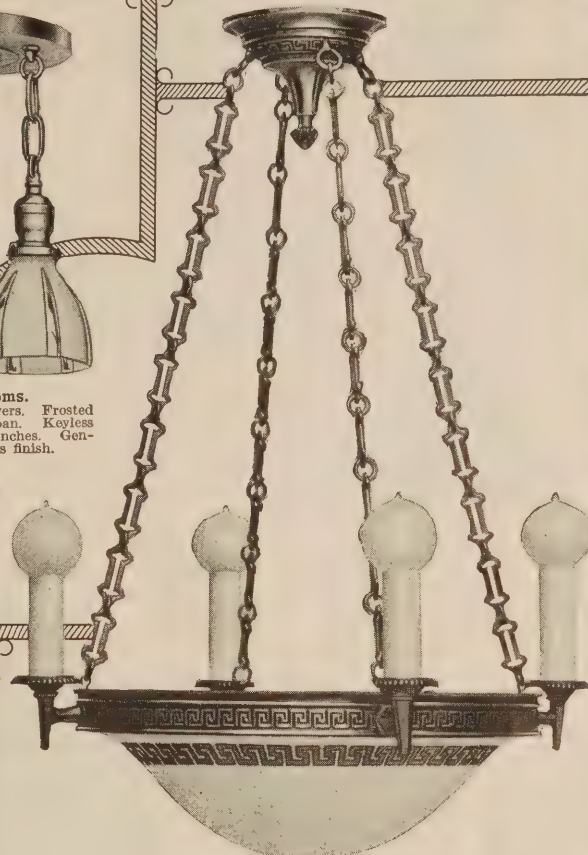
**Living Room.**

Five-Light Shower. Length to bottom of center shade, 36 inches. Spread, 19 inches. Genuine brass in brush brass and black finish. Frosted shades in leaf design with scalloped edge.



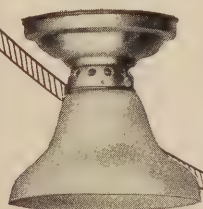
**Three Bedrooms.**

Three Two-Light Showers. Frosted glass shades; 10-inch pan. Keyless sockets. Length, 13½ inches. Genuine brass in brush brass finish.



**Dining Room.**

Six-Light Fixture. Length to bottom of bowl, 29 inches. Spread, 19 inches. Genuine brass in brush brass and black finish. Bowl is pebbled crystallized glass with amber green Grecian key decoration.



**Bathroom.**

Genuine Brass Ceiling Light in nickel finish. Frosted glass reflector.



**Upper Hall.**

Genuine Brass Ceiling Light. Six-inch frosted glass ball.



**Lower Hall.**

Genuine Brass Ceiling Fixture. Six-inch frosted glass ball.



**Rear Porch.**

Ceiling Band in dead black finish. Six-inch frosted glass ball.



**Bathroom.**

Two One-Light Brackets. Genuine brass in nickel finish.

**Kitchen.**

One-Light, 36-Inch Pendant. Genuine brass in oxidized copper finish. Frosted 7-inch reflector.

**Pantry.**

Four-Foot Cotton Covered Drop Cord. Brass canopy and key socket.

**Basement.**

Four-Foot Weatherproof Drop Cord.

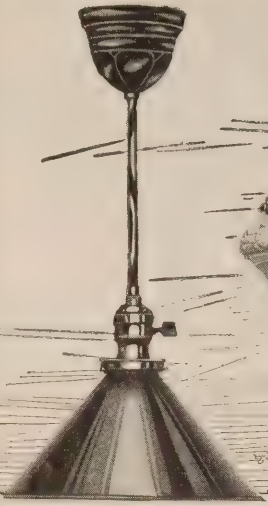
**Front Porch.**

Two Wrought Iron Electric Brackets. Dead black finish. Six-inch frosted glass ball.



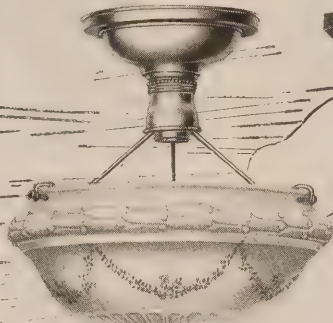
# Set No. 7 Easy Payment Price \$88.00

For Five-Room Bungalow



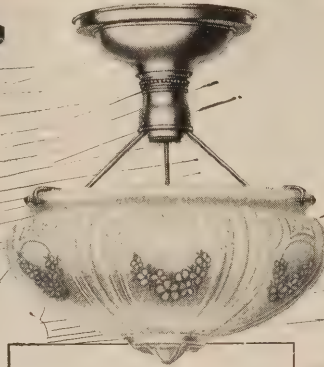
## Kitchen.

Genuine Brass Ceiling Pendant in oxidized copper finish. Length, 18 inches. Ten-inch green glass reflector lined with white opal glass.



## Bedroom.

One-Light Genuine Brass Ceiling Fixture. Length to bottom of bowl, 11 inches. Diameter of hand painted bowl, 11 inches.



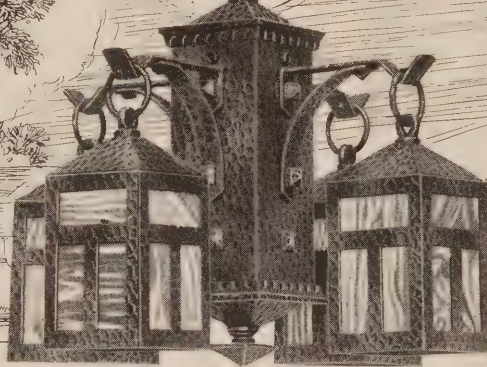
## Bedroom.

One-Light Genuine Brass Ceiling Fixture. Length to bottom of bowl, 11 inches. Diameter of hand painted bowl, 11 inches.



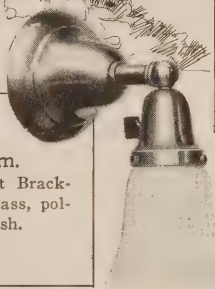
## Hall.

One-Light 36-Inch Pendant. Genuine brass in brush finish. Frosted glass globe.



## Dining Room.

Four-Light Fixture. Length to bottom of fixture, 36 inches. Spread, 15 inches. Chain pull sockets. Hammered iron in burnt brass finish. Lanterns have amber color glass.



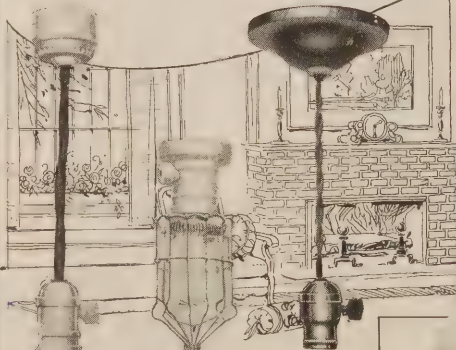
## Bathroom.

Two One-Light Bracket. Genuine brass, polished nickel finish.



## Sleeping Porch.

Cast Iron Band in dead black finish. Length, 6 3/4 inches. Seven-inch frosted reflector.



## Basement.

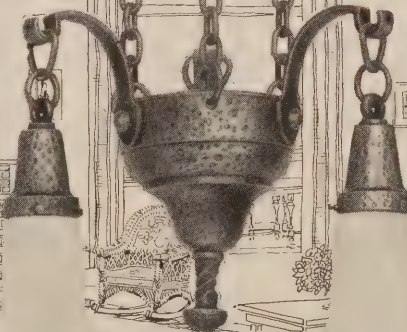
Four-Foot Weather-proof Drop Cord.

## Back Porch.

Porcelain Ceiling Light With Lamp Guard.

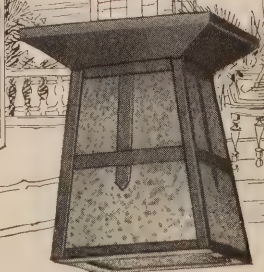
## Pantry.

Four-Foot Cotton Covered Drop Cord.



## Living Room.

Three-Light Ceiling Fixture. Length to bottom of glassware, 19 1/2 inches; 12-inch spread. Hammered iron in burnt brass finish. Frosted glass shades.



## Front Porch.

Two One-Light Ceiling Lanterns. Wrought iron, dead black finish. Length, 7 1/2 in. Frosted pebbled glass.



# Set No. 8 Easy Payment Price \$63<sup>40</sup> For Six-Room House



## Three Bedrooms.

One-Light Genuine Brass 36-Inch Dome Pendant. Frosted glass dome, 7 $\frac{3}{4}$  inches in diameter.

## Dining Room.

Two-Light Semi-Indirect Fixture. Length to bottom of bowl, 36 inches. Diameter of Bowl, 18 inches. Genuine brass in brush brass and black finish. Embossed bowl in panel design with old ivory tint.

## Living Room.

Four-Light Shower. Length to bottom of shades, 36 inches. Spread, 18 inches. Genuine brass in brush brass and black finish. Bowl and shades embossed in panel design with old ivory tint.

## Kitchen.

Genuine Brass 36-Inch Pendant in oxidized copper finish. Frosted glass reflector.

## Hall.

One-Light, 26-Inch Pendant. Genuine brass in brush brass and black finish. Embossed glass ball, 6x8 inches, old ivory tint.

## Bathroom.

Genuine Brass Ceiling Light in nickel finish. Frosted glass reflector.

## Upper Hall.

Genuine Brass Ceiling Fixture. Frosted glass reflector.

## Basement.

Four-Foot Weatherproof Drop Cord.

## Porch.

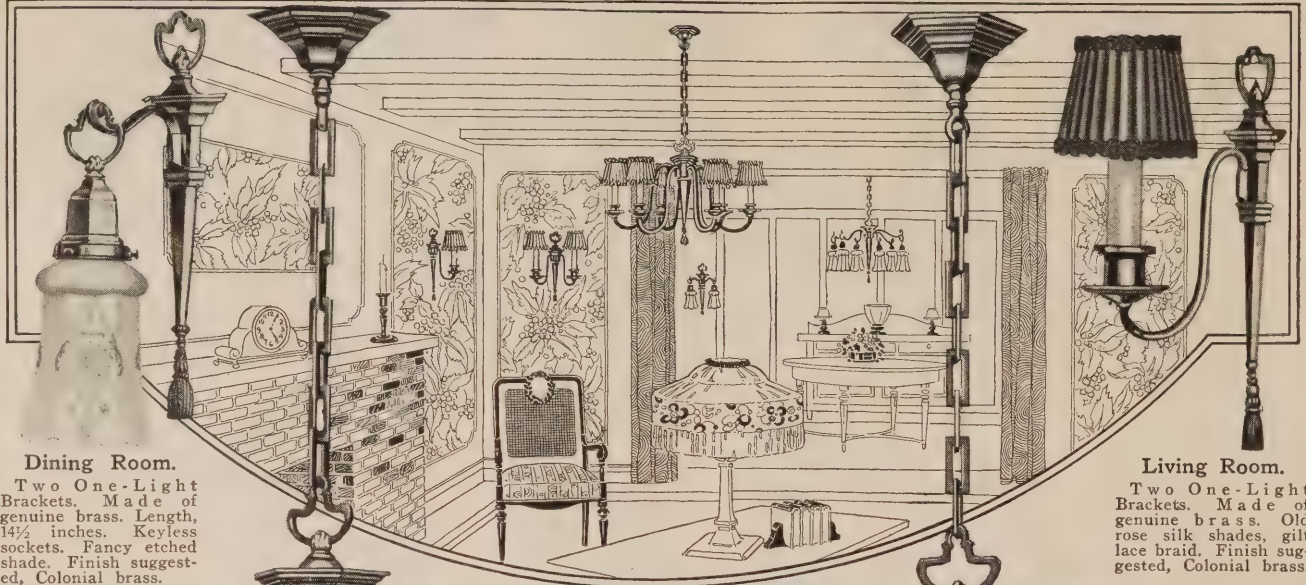
Cast Iron Band in dead black finish. Six-inch frosted glass ball.

## Pantry.

Four-Foot Cotton Covered Drop Cord.



# Set No 9 First Floor, Porches and For Six-Room House

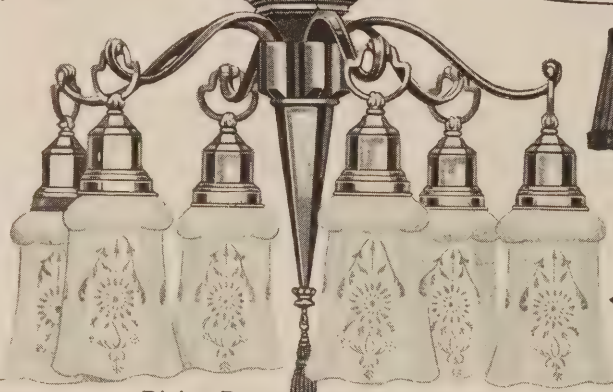


**Dining Room.**

Two One-Light Brackets. Made of genuine brass. Length, 14½ inches. Keyless sockets. Fancy etched shade. Finish suggested, Colonial brass.

**Living Room.**

Two One-Light Brackets. Made of genuine brass. Old rose silk shades, gilt lace braid. Finish suggested, Colonial brass.



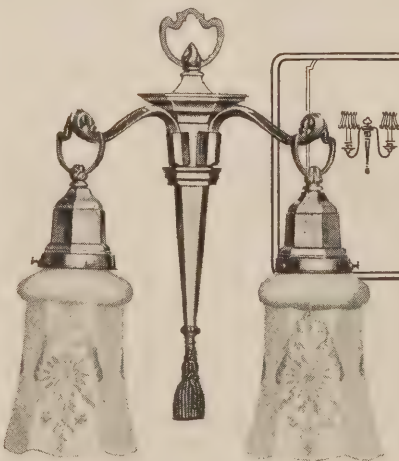
**Dining Room.**

Six-Light Chandelier. Made of genuine brass. Length, 36 inches. Spread, 18 inches. Keyless sockets. Satin finish fancy shaped shades in flowered design. Finish suggested, Colonial brass.



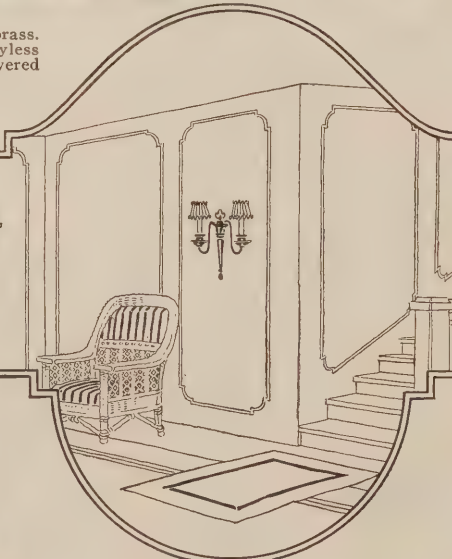
**Living Room.**

Six-Light Candle Fixture. Made of genuine brass. Length, 37 inches. Spread, 18½ inches. Five-inch old rose silk shades, trimmed with gilt lace braid. Finish suggested, Colonial brass.



**Dining Room.**

Two Two-Light Brackets. Made of genuine brass. Length, 14½ inches. Spread, 8 inches. Satin finish fancy shaped shades in flowered design. Finish suggested, Colonial brass.



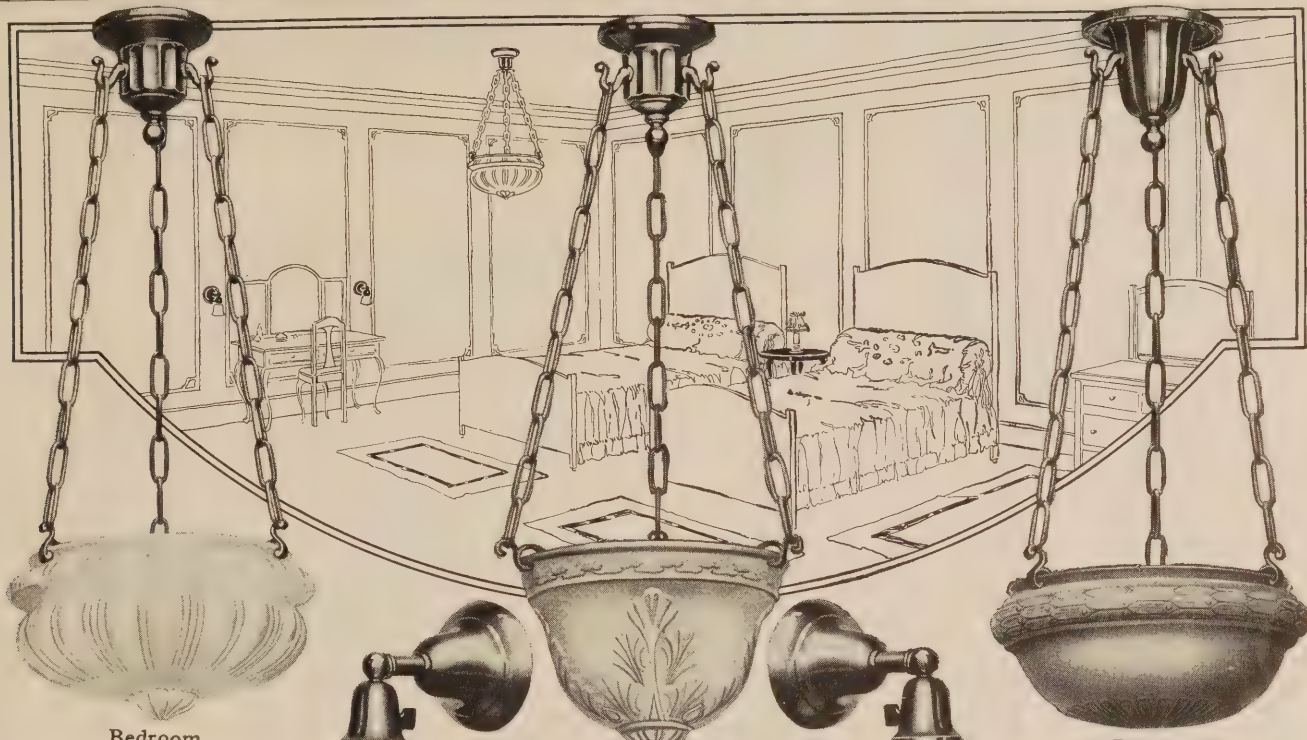
**Living Room.**

Two Two-Light Brackets. Made of genuine brass. Spread, 8 inches. Length, 14½ inches. Old rose silk shades, gilt lace braid. Finish suggested, Colonial brass.



# Second Floor—Easy Payment Price \$30<sup>1</sup>/<sub>25</sub>

## For Six-Room House



**Bedroom.**

One-Light Semi-Indirect Fixture. Genuine brass, brush brass finish. Length, 26 inches. Diameter of satin finish bowl, 9<sup>3</sup>/<sub>4</sub> inches.

**Bedroom.**

One-Light Semi-Indirect Fixture. Genuine brass, brush brass finish. Length, 24 inches. Diameter of satin finish oak leaf design bowl, 10 inches.

**Bedroom.**

One-Light Semi-Indirect Fixture. Genuine brass in brush brass finish. Length, 24 inches. Diameter of satin finished frosted glass bowl, 11<sup>1</sup>/<sub>4</sub> inches.

**Three Bedrooms.**

Six Dressing Table Brackets. Genuine brass. Frosted shades to match bowls.

**Bathroom.**

Two One-Light Brackets. Genuine brass, polished nickel finish.

**Upper Hall.**

Genuine Brass 15-Inch Ceiling Light. Frosted glass shade.

**Front Porch.**

Two One-Light Brackets. Wrought iron, dead black finish. Six-inch frosted glass balls.

**Kitchen.**

Genuine Brass Ceiling Pendant in oxidized copper finish. Length, 18 inches. Green 10-inch glass reflector lined with white opal glass.

**Back Porch.**

Porcelain Ceiling Light with lamp guard.

**Side Porch.**

Cast Iron Band in dead black finish. Six-inch glass ball.

**Sleeping Porch**

Genuine Brass Ceiling Light. Six-inch frosted glass ball.

**Pantry and Attic.**

Two Four-Foot Cotton Covered Drop Cords.

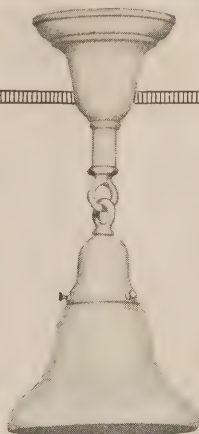
**Basement.**

Four-Foot Weatherproof Drop Cord.



# Set No. 10 Easy Payment Price \$195.00

For Six-Room House



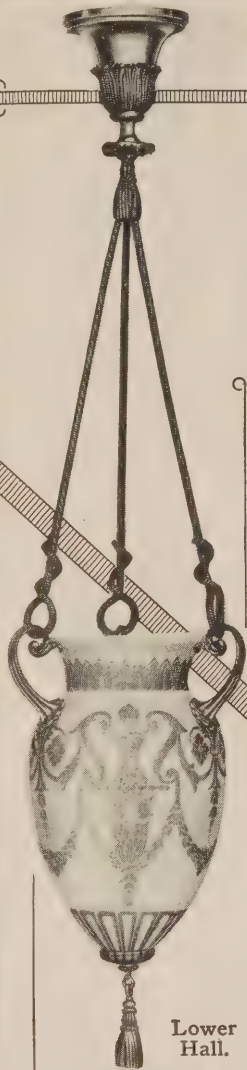
## Bathroom.

One-Light Genuine Brass Ceiling Pendant. White enamel finish with frosted glass reflector.



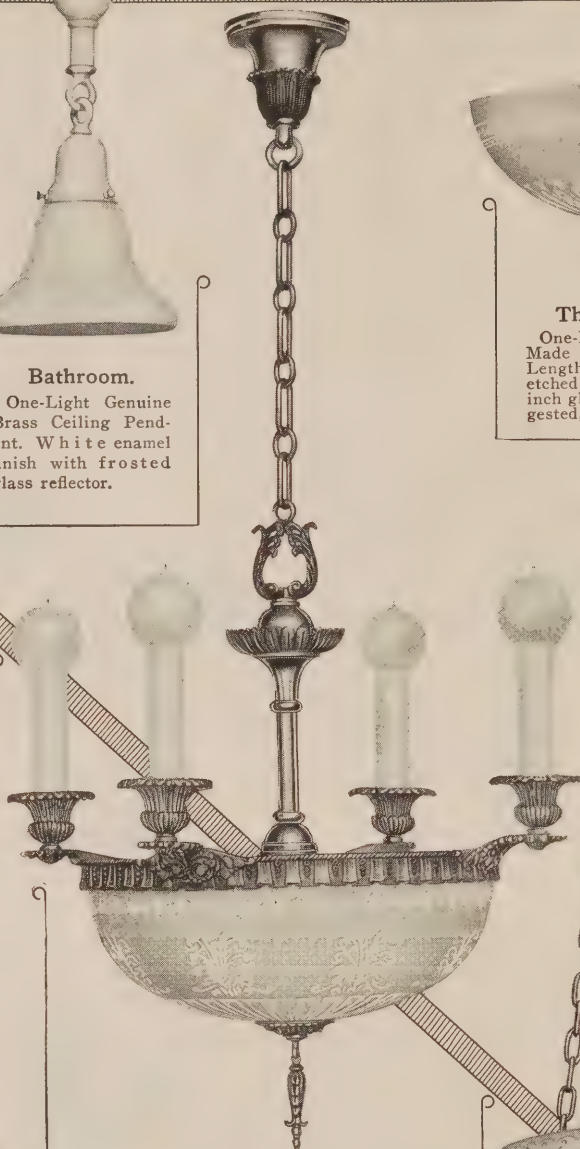
## Three Bedrooms.

One-Light Ceiling Fixture. Made of genuine brass. Length, 13 inches. Deep etched old ivory tinted 12-inch glass bowl. Finish suggested, antique gilt.



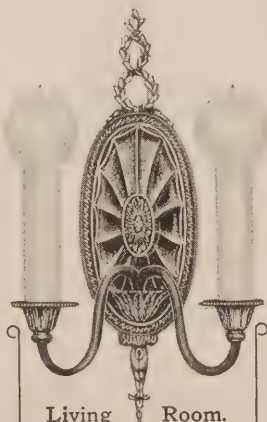
## Lower Hall.

One-Light 36-Inch Fixture. Genuine brass. Sepia tinted etched glass globe. Finish suggested, antique gold.



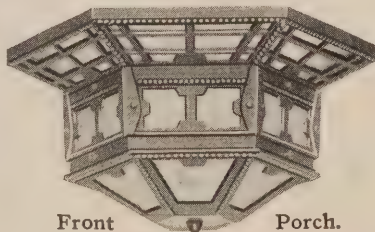
## Dining Room.

Six-Light Fixture. Made of genuine brass. Length, 42 inches. Spread, 19 inches. Fourteen-inch sepia tinted etched glass bowl. Finish suggested, antique gold.



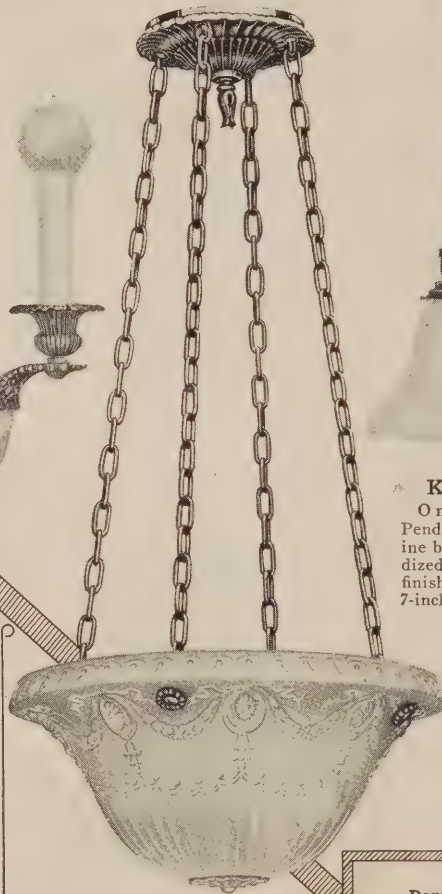
## Living Room.

Two Two-Light Cast Brass Wall Brackets. Finish suggested, antique gilt.



## Front Porch.

Cast Iron Hexagon Ceiling Plate, in dead black finish. Diameter, 13 inches across corners. Panels are frosted cathedral glass.



## Living Room.

Two-Light Semi-Indirect Fixture. Genuine brass. Length, finished, 36 inches. Old ivory 16-inch glass bowl, embossed with medallion and garland in Adam design. Finish suggested, antique gilt.



## Kitchen.

One-Light Pendant. Genuine brass in oxidized copper finish. Frosted 7-inch reflector.

## Pantry.

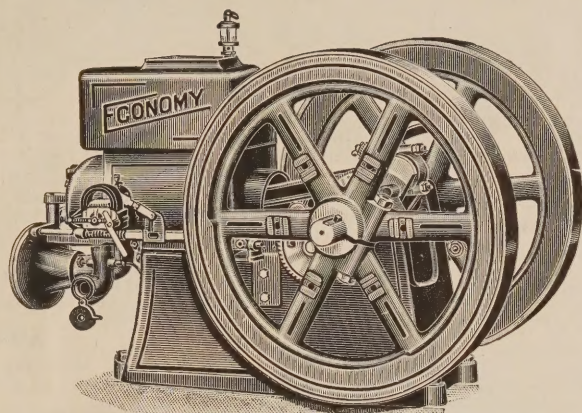
Four-Foot Drop Cord.

Basement. Four-Foot Drop Cord.

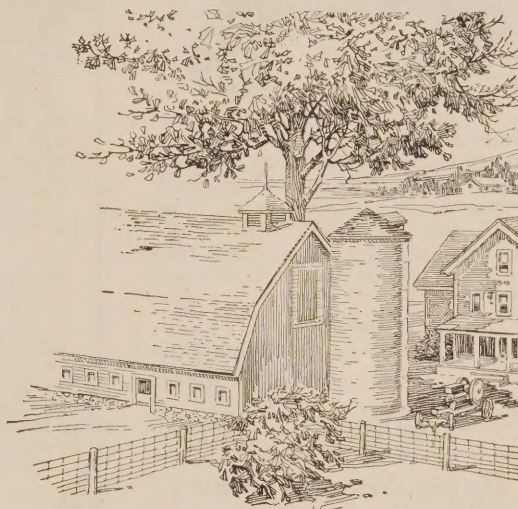
Upper Hall. Genuine Brass Ceiling Light.



# Economy Gasoline Engines for Farm Electric Light Plants



Equipped with Webster Magneto, furnishing a big hot spark on one turn of the flywheel, Winter or Summer. No batteries needed.



## Economy Engines Are Built to Last

Economy Engines were designed and are built by gasoline engine experts. They are made of high grade materials and are shipped under our guarantee of satisfaction or your money back, and we replace free of charge at any time any parts that you think are defective.

Economy Engines are built to run continuously day in and day out for years. They have large bearings, large crankshafts and heavy flywheels, a simple, sensitive governor, the high grade Webster Oscillating Magneto, a fuel saving mixing valve and a speed changing lever; in fact, everything to make an easy, smooth running engine that will do your work and do it easily and for a long time.

## Complete, Ready to Run

When you buy an Economy Engine it is set up complete, with fuel tank in the base of the engine and a pulley on the flywheel, so that when the engine reaches you all you have to do is to supply the fuel and follow the simple instructions regarding starting.

Anyone can run an Economy Engine, even though he has never had any experience with an engine, as it is simple in construction, and the book that we send you is very complete, telling just how to start the engine and also how to run it and take care of it.

### Specifications, 1½ Horse-Power.

<b>BORE</b> —3¾ inches.	<b>FLYWHEELS</b> —18 inches
<b>STROKE</b> —5 inches.	in diameter; weight,
<b>TYPE</b> —Four-cycle, water	each, 43 pounds.
cooled.	<b>CRANKSHAFT</b> —1¼ in.,
<b>SPEED</b> —550 revolutions	drop forged.
per minute.	

### Price With Webster Magneto.

**269A151**—1½ Horse-Power Webster Magneto Equipped Economy Gasoline Engine, with 4x4-Inch Pulley. Shipping weight, about 278 pounds.

Monthly Payment Price..... **\$49.35**

### Specifications, 2½ Horse-Power.

<b>BORE</b> —4 inches.	<b>FLYWHEELS</b> —22 inches
<b>STROKE</b> —6 inches.	in diameter; weight,
<b>TYPE</b> —Four-cycle, water	each, 88 pounds.
cooled.	<b>CRANKSHAFT</b> —1½ in.,
<b>SPEED</b> —450 revolutions	drop forged.
per minute.	

### Price With Webster Magneto.

**269A251**—2½ Horse-Power Webster Magneto Equipped Economy Gasoline Engine, with 8x4-Inch Pulley. Shipping weight, 520 pounds.

Monthly Payment Price..... **\$81.20**

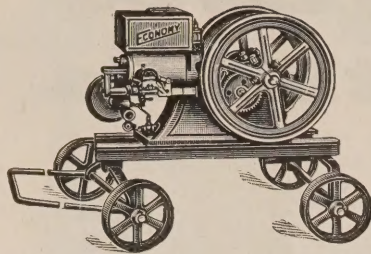
## Terms on Engines

Make Your Own Terms. See Page 2.



# Gas Engines on Monthly Payments

## 1½ Horse-Power Engine and Truck



This outfit consists of a 1½ Horse-Power Economy Gasoline Engine, with Webster Magneto and 4x4-inch pulley and hand truck. Shipped from a warehouse near you. Truck frame is all steel with 9-inch metal wheels. Truck is set up with holes bored and bolts are furnished so all you have to do is mount the engine.

**269A1512**—1½ Horse-Power Webster Magneto Equipped Economy Gasoline Engine and Hand Truck. Shipping weight, about 343 pounds.

Monthly payment price..... **\$54.85**

## 1½ Horse-Power Pumping Outfit

This outfit consists of a 1½ Horse-Power Economy Gasoline Engine with Webster Magneto and 4x4-inch pulley, a pump jack and an 11-foot belt, ready for attaching to pump as shown to the right. The pump jack, as described below, clamps to the base of any hand or windmill force pump. Jack has 4½, 7 and 9½-inch strokes, running the pump forty strokes a minute. Pump can be run with engine or by hand. Shipped from warehouse near you.

**269A15303**—1½ Horse-Power Pumping Outfit with Single Gear Jack, for wells up to 200 feet deep. Shipping weight, 365 pounds.

Monthly payment price..... **\$57.25**

**269A15337**—1½ Horse-Power Pumping Outfit with Double Gear Jack, for wells up to 300 feet deep. Shipping weight, 380 pounds.

Monthly payment price..... **\$58.60**

### Shipped From Warehouse Near You.

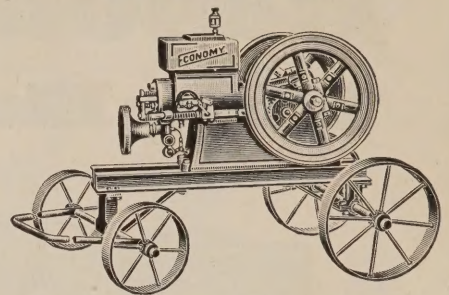
We carry all engines, outfits and equipment shown on these two pages in a warehouse near you and can ship them at once from any of the following cities at the prices shown:

FARGO, N. DAK.  
SIOUX FALLS, S. DAK.  
ST. PAUL, MINN.  
OMAHA, NEB.  
KANSAS CITY, MO.  
DAVENPORT, IOWA  
MADISON, WIS.  
EVANSVILLE, IND.  
GRAND RAPIDS, MICH.  
COLUMBUS, OHIO  
HARRISBURG, PENN.  
ALBANY, N. Y.  
RICHMOND, VA.  
ATLANTA, GA.  
LITTLE ROCK, ARK.

Mail your order to Sears, Roebuck and Co., Chicago, Ill., and tell us from which city you would like to have us make shipment and it will go forward at once. You pay freight only from the city nearest you.

### Make Your Own Terms. See Page 2.

## 2½ and 5 Horse-Power Engine on Hand Truck



This outfit consists of a 2½ or 5 Horse-Power Economy Gasoline Engine with Webster Magneto and pulley and an all steel hand truck. Truck has steel channel beams, 1⅝-inch solid steel axles. Steel wheels with 2½-inch tires. Shipped from warehouse near you.

**269A2515**—2½ Horse-Power Webster Magneto Equipped Gasoline Engine and Truck. Shpg. wt., about 679 lbs.

Monthly payment price..... **\$94.45**

**269A515**—5 Horse-Power Webster Magneto Equipped Gasoline Engine and Truck. Weight, about 1,020 lbs.

Monthly payment price..... **\$134.70**

## 2½ Horse-Power Pumping Outfit

This outfit consists of a 2½ Horse-Power Economy Gasoline Engine with Webster Magneto, the regular 8x4-inch and an extra 4x4-inch pulley, a pump jack and an 11-foot belt, as shown to the left. The pump jack clamps to the base of any hand or windmill force pump. Pump can be run with engine or by hand. Jack has 4½, 7 and 9½-inch strokes, running the pump forty strokes a minute. Shipped from a warehouse near you.

**269A25303**—2½ Horse-Power Pumping Outfit with Single Gear Jack, for wells up to 200 feet deep. Shipping weight, 603 pounds.

Monthly payment price..... **\$90.25**

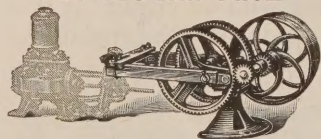
**269A25337**—2½ Horse-Power Pumping Outfit with Double Gear Jack, for wells up to 300 feet deep. Shipping weight, 620 pounds.

Monthly payment price..... **\$91.60**

## Pump Jacks

The jacks shown below are used with a gasoline engine to run the pump. They fasten to the pump platform or to the pump itself. They are back geared, 4 to 1, having three strokes, 4½, 7 and 9½ inches, with two 13-inch pulleys, 2¼-inch crown face, one tight, the other loose; speed, 160 revolutions per minute, operates the pump 40 strokes a minute.

### Horizontal Jack

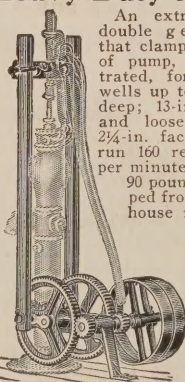


This is a double gear horizontal jack with stand support and all fittings, including a clamp for attaching to pump handle, as shown in the illustration, for operating a horizontal force pump. Three-foot pump rods are furnished, which can be cut to any desired length; 13-inch tight and loose pulleys, 2¼-in. face, should run 160 revolutions per minute. Weight, 95 pounds. Shipped from a warehouse near you.

**269A310**—Double Gear Horizontal Pump Jack.

Monthly payment price..... **\$7.85**

### Heavy Duty Jack



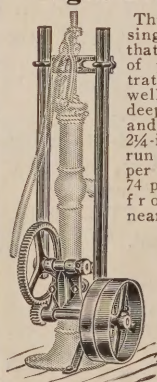
An extra strong double gear jack that clamps to base of pump, as illustrated, for use on wells up to 300 feet deep; 13-inch tight and loose pulleys, 2¼-in. face, should run 160 revolutions per minute. Weight, 90 pounds. Shipped from a warehouse near you.

**269A337**

Double Gear Jack.

Monthly payment price..... **\$7.30**

### Light Duty Jack



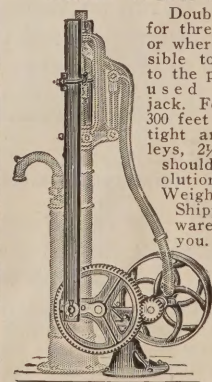
This is a well made single gear jack that clamps to base of pump, as illustrated, for use on wells up to 200 feet deep; 13-inch tight and loose pulleys, 2¼-in. face, should run 160 revolutions per minute. Weight, 74 pounds. Shipped from a warehouse near you.

**269A303**

Single Gear Jack.

Monthly payment price..... **\$5.95**

### Jack With Stand



Double gear jack for three-way pumps, or where it is impossible to fasten jack to the pump. Can be used as overhead jack. For wells up to 300 feet deep; 13-inch tight and loose pulleys, 2¼-in. face, should run 160 revolutions per minute. Weight, 95 pounds. Shipped from a warehouse near you.

**269A304**

Double Gear Stand or Overhead Jack. Month-

ly payment price..... **\$7.85**

NOTE—Pump Jacks will be shipped only on Monthly Payment Terms if ordered with some Outfit priced \$40.00 or more.



# What Our Customers Say

## Electric Lighting



**"Saved About \$150.00."**

John Hemesath, Ossian, Iowa, writes us:—"Nearly four years ago I installed one of your 80 Ampere-Hour Electric Light Plants. During all this time it has given excellent satisfaction. The only expense I had with it was 5 gallons of electrolyte and wood separators. I can safely recommend this outfit to anyone wishing to install an electric light plant. In buying it from you, I think I saved about \$150.00. Enclosed find photo of my residence. In the added comfort, convenience and general pleasure we have enjoyed it is of inestimable value. Your lighting plant is one of the best investments we have in our home."



**"You Can Refer Anyone to Me."**

F. M. Waller, McDermott, Ohio, says:—"Regarding my lighting plant, even if I had paid the same price as for any other plant, I would be ahead, on account of the very strong and heavy, rugged batteries that I got. You can refer anyone to me. It is certainly a big advantage to be able to secure such a fine lighting plant through the easy means of only ordering from a catalog."



**"A Great Time and Work Saver."**

George J. Wiesemann, LaGrange, Mo., writes us:—"I think your lighting plant a great time and work saver. Would not do without a light plant. Enclosed you will find picture of my farm home and barns. There are seven of these barns that have electric lights. We cannot take a picture so as to get all of our buildings on. There are four buildings that do not show here, which are also lighted from the plant we purchased from you. It has given us splendid satisfaction, and we are more than pleased in every way and highly recommend it."



**"The Best That Can Be Bought Anywhere."**

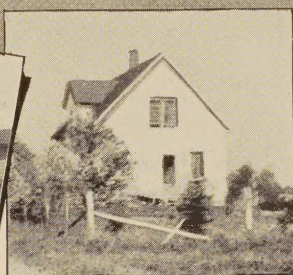
Tom Baldwin, Brownwood, Mo., writes:—"I would be very glad to show anyone my plant that is interested in lighting plants, as I believe that they are the best that can be bought at anywhere near the same price. I believe that at the time I bought my plant I saved at least \$200.00, and its additional value in general convenience, comfort and pleasure cannot be estimated. You might be further interested to know that my house was built from one of your house plans. We find a distinct advantage in trading with Sears, Roebuck and Co.—one can secure such good values at such a remarkable saving and great convenience."

## Heating



**"Saved Me \$50.00."**

P. Petersen, 33 Tenth St., North, Troy, N. Y., writes:—"As to saving in coal I do not know yet, as last Winter was very mild and we used 9 tons. The Winter before was very severe and we used 11 tons, but in price I saved about \$50.00. I am well pleased with your plant, and if anyone would like to see it they are welcome to. It means so much added comfort and convenience. One would hardly believe it possible to do so well in buying from a catalog. We will gladly tell all our friends all about it."



**"Have Shown It to Many People."**

Jeppe Sorensen, Mayflower Farm, Askov, Minn., writes:—"I have shown my heating plant to many people. I don't know for sure exactly what it has saved me, but I do know that it is one of the best investments we have on our farm and we would not want to part with it. No farmer can make a mistake in installing one. In fact, once installed, you will find, as we did, that it is one of the best investments we have in our home. We cannot estimate the comfort it has given us."



**"Saved Me \$300.00."**

E. Vadeboncoeur, 41 Franklin St., Derry, N. H., says:—"I am perfectly satisfied with the plant. I saved about \$300.00 by buying it from you and installing it myself. It was like play, the plans were so simple. Your heating plant adds value to a house, as well as meaning so much in home comfort. It is a splendid investment for any home. It means a great deal to know that you can always be sure of good even heat with practically little or no trouble and small expense."



**"Your Instructions Make It Easy to Install."**

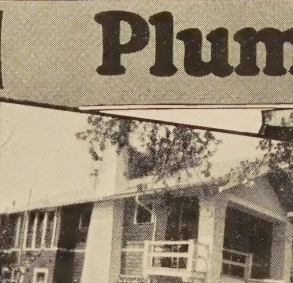
Emil Smith, 1658 Pennsylvania Ave., Flint, Mich., writes:—"Your steam heating plant is giving perfect satisfaction. As I had the necessary tools, I did the pipe reaming, etc., without the loan of any other tools or help. I did the work in two weeks by the aid of your instructions and blue print. Your instructions are so plain that one can hardly go wrong and can easily do the installing himself, which means more money saved."

## Plumbing



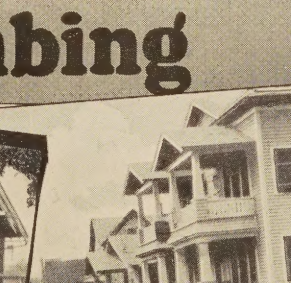
**"Saved Me About 25 Per Cent."**

G. W. Bates, D. D. S., Winthrop, Me., writes:—"I will be glad to have you use my name in regard to plumbing purchased from you. Am willing to show it to anyone who cares to see it. It is perfectly satisfactory in every way and at a cost far below others. How much I saved I cannot say to a certainty, but a saving of 15 per cent would be conservative, and it might possibly reach 25 per cent. I found your outfit to be all your catalog states. Following your instructions, it was installed with little effort and small cost. It is certainly a pleasure to be able to secure a fine plant like yours with such ease of ordering and such a big saving in every way."



**"Cost a Third Less."**

Mrs. Edwin I. Clark, Box 107, Berlin, Conn., says:—"We are much pleased with the plumbing outfit for our home, and although I cannot say just how much we saved on it, I know it was at least a third less than we could get it here. We are willing you should use our name in reference. Moreover, to any farmer or house owner we can truthfully say, from experience, that it will be to their interest to investigate your plant."



**"Increases Renting Value of Apartments."**

L. C. Thompson, Worland, Wyo., writes:—"Enclosed find photograph of the Thompson Apartments, built in Greybull, Wyo., from your Plan No. 247, which was very satisfactory, especially the plumbing which I ordered from you. The apartments were all rented before the building was finished. I could easily rent three buildings like it if I had them built. An apartment well equipped with modern plumbing like yours is certainly made more easy to rent, no matter what season."



**"Am Very Well Pleased."**

P. A. Lee, 4007 Quincy St., N. E., Minneapolis, Minn., writes:—"Enclosed please find picture of my house. I am well pleased with the plumbing you sent me. I saved 40 per cent on my bill. Moreover, it is amazing, and additionally pleasing, to think that one can secure such a fine outfit with such little trouble as only ordering through a catalog. I am highly pleased and money ahead. My outfit was very easily installed and is very sanitary and modern. Who would ever think, years ago, that they could do so well through only a catalog? The public enjoys an immense saving through your great buying power. We certainly have."



*Our Guarantee Stands the  
Test in the Scales of Justice.*

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